



First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

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EDITORIAL COMMENT.



WHILE certain of the Labour "leaders" and widows of Anglican bishops are endeavouring to impress upon us that we must take "our German friends" to our hearts after the war, the latter are doing all they know to demonstrate that the Hun is a veritable leper and completely outside the pale of civilisation. We have become used to air raids on open towns, in the course of which non-combatant civilians, women and children are done to death, and are getting accustomed to regard them as merely incidents in a war to the death. We have even gone to the length of admitting that there is a more or less legitimate aim of war in the attack on open towns, inasmuch as it compels the attacked to keep for defensive purposes aircraft, guns and munitions which would otherwise be employed for more direct work at the front. In a word, we have almost tacitly come to look upon the ordinary air raid as a more

or less excusable, if not precisely a legitimate, enterprise of war. But the latest development of war in the air, as understood by the Hun, stands in a different category altogether. We refer to the deliberate bombing by aircraft of military hospitals, of which many instances have occurred lately. We have had it here. In the last raid on Margate, bombs were dropped on a hospital under circumstances which would appear to leave little room for doubt that the precise nature of the buildings must have been known to the attacking airmen. They were clearly marked with the Red Cross in the ordinary way, and in addition a huge Red Cross was displayed on the ground for the very purpose of enabling possible enemy raiders to recognise them as hospital buildings. Nevertheless, bombs were dropped on them in a manner unpleasant to think about. In this case, however, there is a small element of doubt as to whether the German airmen did recognise that it was a hospital they were bombing, and they are, therefore, entitled to the benefit of it. When we come, however, to regard what has recently been happening in France and Flanders we come on to different ground. It is quite impossible to read the accounts of the bombing by German aeroplanes of the French hospitals behind Verdun without realising that here is a whole series of deliberate and calculated outrages against every canon of humanity and civilisation. Not only do we read of bombs dropped on the hospitals by aircraft flying so low that they could not fail to hit their mark, but of the Boche aviators actually firing with machine guns on the nurses and orderlies engaged in the work of rescuing the wounded from the burning hospital buildings. There is not a single redeeming feature—not the remotest possibility that the Huns could have mistaken the buildings for barracks or for anything but what they were. They were out to do cold-blooded, calculated murder—murder of the very worst, most sordid kind, inasmuch as their victims were helpless wounded and nurses engaged in a work of mercy.

It is idle at the moment to talk of meting out punishment to the perpetrators of these unspeakable atrocities. For one thing, the actual perpetrators would be hard to identify individually. Moreover, there is the probability to be reckoned with that they were obeying the commands of their superiors, and logically, it is upon the latter that the punishment

should properly fall. In any case, the sum total of the crimes committed by the Huns is so vast and so varied that it involves the whole of the German people, irrespective of rank or standing. There is only one punishment that can approach within measurable distance of adequacy, and that is to place a ban upon the whole tribe until it has purged itself of its crimes. Let the Allies, as nations and as individuals, resolve that after the war they will have nothing more to do with the unclean Boche—that they will neither have nor permit intercourse, social or commercial, with him for a long term of years, and leave him to wallow in his own filthy sty.

♦ ♦ ♦

Too Many Hun Prisoners at Large!

There is evidently something wrong with our arrangements for the safe custody of German prisoners of war. Allowing for the fact that however strict the surveillance in internment camps there must be odd cases of escape from durance, seventeen in one week from five different camps is a record which needs enquiring into. Quite an excitement was created in the Thames valley at the week-end by the escape from Holyport Camp of two Hun aviators, who it was thought might attempt to steal an aeroplane and fly back to Germany. To frustrate such an attempt, the guards were specially warned at all the aerodromes in the vicinity, and all the machines capable of immediate flight were placed under extra security. Were it not that the state of things disclosed by these frequent escapes is so serious, all the bother caused by these two impatient Huns would border on the ludicrous. There is certainly a spice of humour in the sudden state of anxiety which appears to have seized the authorities when it was discovered that a couple of German flying-men were lost in the countryside, and the locking up of machines which might have been commandeered for the purpose of a joy-ride to Germany sounds really funny.

But there is an aspect of the matter which is certainly very far removed from the humorous. According to the rules of the internment camps, money is not allowed, aluminium tokens being the sole currency. Neither is the wearing of plain clothes permitted, with the exception of flannel trousers for wear when playing games. Yet in the announcement of periodical escapes from these camps it is sometimes stated that the escaped prisoners are believed to be wearing civilian clothes and to be in possession of money. How and where do they obtain clothing and money? How is it that it appears to be so easy to escape from these detention camps? So far as the first is concerned, there is only one possible explanation. The prisoners cannot make clothes, and they do not find money growing on the trees within the barbed wire enclosures. Therefore, the supplies must come from outside, which leads us to the unpleasant conclusion that there is treachery at work somewhere. Unfortunately, there are still a few among our own countrymen who continue to regard the German as a man and a brother, and, besides this very small minority, it must be remembered that there are still some thirty thousand alien enemies loose in various parts of the country. It would be passing strange if some at least of these harmless (!) folk were not ready and willing to assist their escaped compatriots to get back to the Father-

land. Our own ideas regarding these uninterned enemies are fairly well known to our readers—we would put every one of them, irrespective of rank or social connections, behind a thick hedge of wire. The Government, however, thinks differently, and seems to be willing to take the attendant risks. The least that can be done under the circumstances, then, is to deal in the most drastic manner possible with any, whether misguided British or interned Huns, who may be found guilty of assisting in the escape of prisoners, or of harbouring them afterwards. A simple sentence of three months' hard labour would not be a deterrent—the punishment must be swift and heavy.

So far as the answer to the second query is concerned, it certainly seems that escape is becoming too easy, and that argues a certain amount of laxity on the part of those responsible for the safe custody of prisoners of war. That, however, is a matter with which the proper authorities may be entrusted to deal. However they may deal with it, one thing is certain, and that is that things will have to be drawn much tighter than they have been, for people are getting disturbed and suspicious at the constantly recurring escapes from these camps.

♦ ♦ ♦

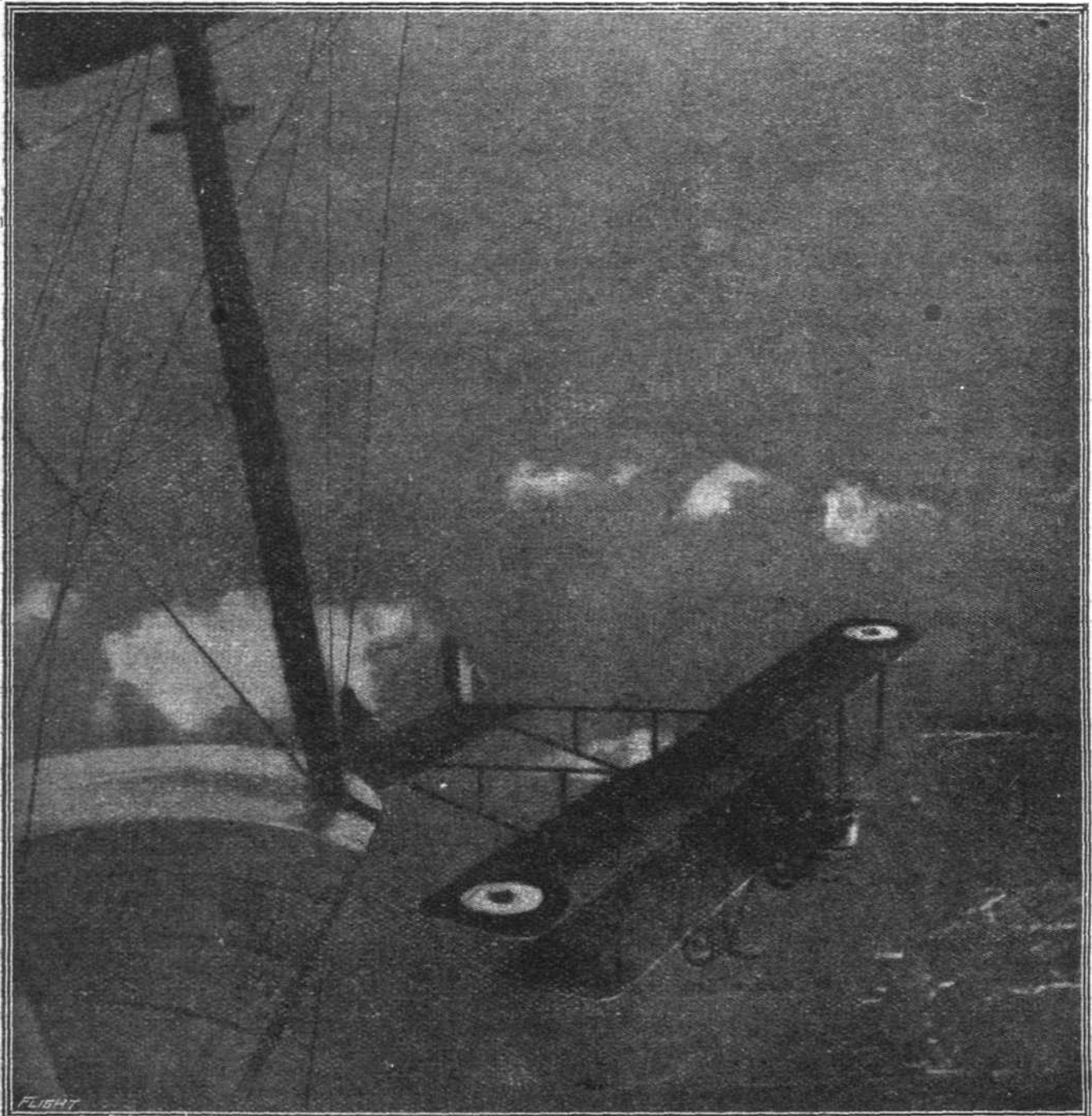
To Help Production.

In our issue of last week we published a paragraph announcement to the effect that, in view of the urgent demands for increased aero engine or aero engine parts production, the Controller of Aeronautical Supplies would be glad if firms in a position to assist would communicate with him at Room 355, Air Board Offices. The move is an excellent one, so much so that it is a wonder it has not been officially inaugurated before. Scattered about all over the country are innumerable small workshop plants which are not capable of undertaking big work, but which could be of untold use in the making of small parts for engines of almost any kind. To take the fullest advantage of these small plants will mean that a great deal of organisation will have to be done, but we believe the results will be worth it, if only the people concerned do as the Controller requests and will communicate with him, giving all necessary particulars of the work they are able to undertake. Not only are there these numerous plants which are run for business purposes, but there are very many highly skilled amateur workers owning, in many cases, quite a respectable amount of machine plant, and these too can be made use of in the acceleration of production. How many amateurs, for example, are there interested in model engineering and who own lathes of the popular 3½ in. centres type? Their name must be legion, and the amount of work they would be able to put into the winning of the war would be prodigious if only their efforts were invoked and properly organised. Although the Controller's request only specifies "firms," we do not doubt for a moment that the offers of the class we have in mind would be sympathetically received, provided always that the individual possesses the necessary skill and is not merely a dabbler on the fringe of practical mechanics. It is only by taking advantage of every possible means of production, the less as well as the greater, that we shall achieve the measure of output necessary to establish that definite aerial ascendancy over the enemy which means a speedy victorious end to the war.

Parachutes for Airmen.

We have before us certain correspondence on the subject of the training of airmen in the use of the parachute as a means of life saving. We had almost decided to refrain from commenting upon it, but for the statement that during the last raid on the coast an enemy airman made use of a parachute to escape from his machine when it was brought down in aerial combat. We know the uses of the parachute in free and captive ballooning, but its adaptability for use in aeroplanes is more uncertain, principally for the reason that it is next door to impossible to carry out the necessary experiments to ascertain precisely what its measure of use may be. The suggestion in the correspondence to which we have referred is that training classes should be established to teach the use of the parachute. In the abstract the idea is excellent, and we agree that the question is well worthy of very careful examination. As we are well aware, the toll of life in the Air Services under con-

ditions of active service is exceedingly heavy, and there can be no manner of doubt that, provided some such device as the parachute can be adapted to use from a fast flying, or falling aeroplane, the actual loss might be substantially reduced. There is, however, a decided question whether it is really possible to demonstrate its use under such circumstances as a part of the curriculum of training. We are very much inclined to think that the risks would be far greater than could possibly be justified. The way the matter appeals to us is that to leave an aeroplane by parachute is absolutely the very last resource of the airman who finds himself in extreme difficulty—it supplies him with the off-chance of saving his life. Now to be really effective the training in its use would have more or less to reproduce those circumstances of extreme difficulty, and it is perfectly obvious that no sane commander or administration would consent to the necessary risks being taken. The fact that a German airman appears to have made use of such



By courtesy of "La Guerre Aérienne."

Aerial guardians of Paris, who day and night keep watch against attacks by the air, upon the capital, a monotonous task of strenuous duty, which carries with it little glory by reason of its complete effectiveness as an antidote to the Zeppelin marauders.

a device, and apparently with success, establishes a case for enquiry, and, within limits, of experiment, but we should scarcely like to go so far as to say that instruction in the use of the parachute should as yet form a part of the ordinary course of training of aviators.

The Future of Aviation.

Not the least significant sign of the times is the matter-of-course way in which it has become accepted that aerial transport will play a great part in the future development of the world's intercourse. We constantly are impelled to hark back for a decade and, at the risk of becoming hackneyed, to recall how little faith anyone but the very few enthusiasts, who believed in the future of aerial navigation, had in the possibility of a practical solution of the problem of dynamic flight. Then, as we have often recalled, no inventor could have raised a hundred pounds on the potentialities of anything that purported to be a flying machine. Now everybody accepts as a commonplace that aerial transport is an accomplished fact and that it will, as a matter of course, prove to be a dominating factor in commerce and inter-communication between the far-flung communities of the earth.

In a letter to the *Times*, Sir Francis Younghusband as it were unconsciously voices the faith of the multitude in the future of aviation. In writing on the "Development of India from Within," he says, quite by the way and as though the matter admitted of no question—as indeed it does not—that "the advent of the aeroplane will make it easier to get there, and science will make it pleasanter to live there." Then, later on, he says: "India will also send representatives—chosen by itself—to the Council of the whole Empire; and British Indians—and probably Indians of high position also—will send their children to be educated in England, and will by speedy air service yearly visit England, spending the winter in India and the summer in England. The tie with England will always be preserved."

It would be possible to elaborate the subject almost indefinitely were it necessary so to do in order to point the moral. There is, however, no need for that, and we have only taken the letter of Sir Francis as a case in point of how absolutely the future of aviation is taken for granted by all who

take the trouble to think ahead. We sometimes hear doubts expressed of whether there is indeed any future for aerial navigation, outside the purposes of war. There is, we know, a very circumscribed school of thought which affects to believe that at the end of the present war there will be a terrific slump in the aircraft industry. All Government contracts, they aver, will be stopped, and the men who at present constitute the *personnel* of our flying services will be so "fed-up" with flying that they will almost automatically drop back into less active pursuits, while the dreams of those who see the earth girdled by postal and commercial air services are mere chimeræ of the imagination. Perhaps it is as well that we do not all think in identical terms, else there would be a danger that progress would stop. There is no incentive to the latter like the disbelief in one's ideals of the man across the street, whereas in the thing upon which all are agreed there is too often a tendency to let others get on with the work. Therefore, it is to the good that the minority of which we have spoken exists, since it supplies the incentive to the believers to make good their faith. That they will so make good does not, to our way of thinking, admit of the slightest argument. It is ill work indulging in prophecy, but were we inclined that way we should say that all the ideals which have been laid down by enthusiasts like Mr. Holt Thomas and Lord Montagu of Beaulieu fall far short of what will be actually achieved in the very near future. As a matter of fact, we do not know—no one knows—the real measure of progress that has resulted from the war. All we do know is that tremendous advances have been made both in the construction of the aeroplane and in the aero-motor, but the uses to which these vastly improved machines have been put in the actual work of the war have been so relatively restricted that we do not know their actual capabilities under peace conditions. If that is so, as we believe is the case, we may look forward at the end of the war to performances in the air which are even at this moment quite beyond our ideas of what may possibly come to pass within a measurable period. Certainly the Atlantic will be flown, and we think without particular difficulty. Then, undoubtedly, one of the very first things that will be undertaken will be the flight to India—and after that anything may happen.

The Control of Flax.

THE Minister of Munitions has issued an Order, dated August 25th, under the Defence of the Realm Regulations, by which he takes possession of:—

- (a) All flax of the 1917 crop grown in the United Kingdom as and when harvested.
- (b) All flax grown in the United Kingdom at any time, and not at the date hereof in the possession of a flax-spinner for the purpose of his business.
- (c) All other flax, except Russian flax, now or hereafter situated in the United Kingdom.

The flax referred to in paragraphs (a) and (b) will be divided, under the directions of the Controller of Aeronautical Supplies, into six grades, according to its quality, handling and cleaning, and the Minister will pay for it the following prices per stone, delivered at the appointed centre:—Special grade, 35s.; first grade, 32s. 6d.; second grade, 30s.; third grade, 27s. 6d.; fourth grade, 26s. 3d.; fifth grade, 25s. Flax inferior in quality to that of the fifth grade will be paid for upon terms which will be afterwards communicated to the various owners.

If, after this notice and Order, any person having control of any flax of which the Minister has taken possession hereunder sells, removes, or secretes such flax without the consent of the Minister, he will be guilty of an offence against the Defence of the Realm Regulations.

No person shall, as from the date hereof until further notice, purchase, sell, offer to purchase or sell, or, except for the

purpose of carrying out a contract in writing existing prior to the date hereof for the purchase of such flax, enter into any transaction or negotiation in relation to the sale or purchase of any flax situated outside the United Kingdom.

Further directions with regard to the delivery of flax of which possession is taken will shortly be issued on behalf of the Minister by the Controller of Aeronautical Supplies.

All communications upon the subject should be for the present addressed to the Controller of Aeronautical Supplies, and marked Flax Supplies, Dept. S (M.A.) 1, Air Board Office, Strand, London, W.C.2.

The Minister of Munitions has also made the following Order dealing with wet spun yarn made of flax line:—

(1) No person shall, on or after September 1st, 1917, until further notice, spin or manufacture any wet spun yarn made of flax line except under and in accordance with the terms of a licence issued under the authority of the Minister of Munitions.

(2) No person shall as from the date hereof until further notice, purchase or take delivery of any wet spun yarn made of flax line except under and in accordance with the terms of a licence issued under the authority of the Minister of Munitions, or sell, supply, or deliver any such wet spun yarn to any person other than the holder of such a licence as last aforesaid.

(3) All applications for a licence in connection with this Order shall be addressed to the Controller of Aeronautical Supplies, Department S. (M.A.) 1, Air Board Office, Strand, W.C.2.

HONOURS.

Honours for the R.F.C.

It was announced on August 22nd that the following are among the decorations presented by the President of the French Republic at various dates to the British Forces for distinguished services rendered during the course of the campaign. The King has given unrestricted permission in all cases to wear the decorations in question:—

LEGION D'HONNEUR.

Croix d'Officier.

Brevet Lt.-Col. D. S. MACINNES, C.M.G., D.S.O., R.E.

Brevet Lt.-Col. D. Le G. PITCHER, I.A.

Croix de Chevalier.

Major J. L. BAIRD, C.M.G., D.S.O., Yeo.

Major (Temp. Lt.-Col.) W. D. BEATTY, R.E.

Brevet Lt.-Col. (Temp. Brig.-Gen.) W. B. CADDELL, R.A.

It was announced in the *London Gazette* on August 25th that the King has been pleased to approve of the appointment of the following Officer to be Companion of the Distinguished Service Order in recognition of his gallantry and devotion to duty in the field:—

Temp. Lt. F. P. HOLLIDAY, Gen. List and R.F.C.—By his initiative and skilful manœuvring he led six hostile machines to an encounter with our own formation, during which five out of the six hostile machines were destroyed and driven down. He had been equally successful the day before in misleading hostile aircraft, and his originality and fearless example were of the greatest value to his squadron.

The King has been pleased to award a Bar to the Military Cross to the following Officer:—

Temp. Capt. A. H. W. WALL, M.C., Middx. R. and R.F.C.

—By his initiative and skilful manœuvring he led six hostile machines to an encounter with our own formations, during which five out of the six hostile machines were destroyed and driven down. He had been equally successful the day before in misleading hostile aircraft, and his originality and fearless example were of the greatest value to his squadron. (M.C. gazetted July 18th, 1917.)

The King has been pleased to confer the Military Cross on the following officers and warrant officers in recognition of their gallantry and devotion to duty in the field:—

2nd Lt. (Temp. Capt.) B. E. BAKER, Rif. Bde. and R.F.C.

—He led his patrol with great skill against a hostile formation, which he attacked, accounting for five enemy machines out of six. Later he drove a hostile machine down in flames and attacked and destroyed another one by diving 7,000 ft. on to it and firing at such close range as to nearly collide with it. His gallantry has been at all times of great value to his squadron.

2nd Lt. L. M. BARLOW, R.F.C., S.R.—For conspicuous gallantry and devotion to duty when engaged in aerial combats. He has set a very fine example of courage and dash in attacking and destroying hostile machines. He also attacked and stopped a goods train, silenced a machine gun on an enemy aerodrome, and dispersed troops on the roads from a very low altitude.

Lt. G. S. BUCK, Lond. R. and R.F.C.—He has taken part in many offensive patrols, and has led seventeen, frequently attacking hostile troops on the ground. He has also successfully attacked and destroyed hostile aircraft, on several occasions, setting a fine example of dash and determination.

Temp. 2nd Lt. T. C. LUKE, R.E. and R.F.C.—For conspicuous gallantry and devotion to duty in aerial combats. On several occasions he attacked hostile formations and dispersed them, although they were in superior numbers, showing great dash and fearlessness in engaging them at close range. He has taken part in 35 offensive patrols, at all times setting a fine example of courage and devotion to duty.

Capt. G. de C. PIRIE, Sco. Rif., S.R., and R.F.C.—He has done exceptionally fine artillery work on two occasions whilst carrying out a shoot. He was attacked by hostile scouts in superior numbers, whom he dispersed, and then completed his work. On another occasion, when by his means the artillery had knocked out three guns of a hostile battery, he descended to a low altitude and prevented the removal of the remaining gun by dispersing the enemy with his machine gun.

2nd Lt. (Temp. Lt.) L. M. WOODHOUSE, Yeo. and R.F.C.—His work whilst observing for artillery has been of the greatest

value. During one month of observation he has been responsible for the destruction of 13 emplacements and for causing a large number of explosions and fires.

The King has been pleased to approve of the award of the Distinguished Conduct Medal to the following for gallantry and devotion to duty in the field:—

7420 1st Air-Mich. C. M. REYNOLDS, R.F.C.

It was announced on August 21st that the King has been pleased to award the Military Medal for bravery in the field to the following:—

13230 1st Air-Mech. G. W. NELSON, R.F.C.

9176 1st Air-Mech. M. V. POCOCK, R.F.C.

65088 Sergt. F. REEDAY, R.F.C.

77451 Sergt. W. STUDHOLME, R.F.C.

79004 Corpl. F. WOODWARD, R.F.C.

The King has been graciously pleased to award the Meritorious Service Medal to the following for gallantry in the performance of military duty:—

Australian Imperial Force.

532 2nd Cpl. (A.-M.) T. J. CARMODY, A.F.C.

666 Sgt. A. G. DALZELL, A.F.C.

630 1st Cl. A.-M. C. M. T. LEE, A.F.C.

684 1st Cl. A.-M. V. SMITH, A.F.C.

Honours for Air Work in Mesopotamia.

In the *London Gazette* of August 25th it was announced that the King has been pleased to approve of the following rewards for distinguished service in Mesopotamia, dated June 3rd:—

Lt. (Temp. Capt.) the Hon. J. H. B. RODNEY, Rif. Bde. (S.R.) and R.F.C.

2nd Lt. (Temp. Lt.) J. S. WINDSOR, S. Wales Bor. and R.F.C.

Honours for War Workers.

AMONG the large number of recipients of the new Order of the British Empire may be noted the following as being especially connected with aviation:—

Knight Grand Cross.

LORD SYDENHAM. Has rendered special services with Air Board, and also as Chairman of a Royal Commission on Public Health.

Knights Commander.

HERBERT AUSTIN, Esq.—Has rendered valuable services in the production of the munitions of war.

DUGALD CLERK, Esq.—Member of the Panel of Board of Invention and Research, Admiralty. Member of the Ministry of Munitions Inventions Department. Member of the Trench Warfare Advisory Panel.

ALFRED EDWARD HERBERT, Esq.—Deputy Director-General in charge of the Machine Tool Division and Chairman of the Machine Tool Committee, Ministry of Munitions.

Commanders.

LEONARD BAIRSTOW, Esq., F.R.S.—Chief of Aerodynamics Department, National Physical Laboratory.

Lieut.-Col. HENRY FOWLER.—Late Director in the Gun Ammunition Division, Ministry of Munitions.

HARRY TEMPEST VANE, Esq.—Valuable war services on War Office and Munitions work.

Members.

RUSSELL CLARKE, Esq.—Aviation Electrician, Telegraphist, &c., Admiralty.

Bravery Rewarded.

It was announced in the *London Gazette* of August 21st, that the King has been pleased to award the Albert Medal of the Second Class to 2nd Lieut. J. P. Campbell, R.F.A., in recognition of his gallantry in saving life in France in March last.

On March 9th, in the Rutoire Plain, near Loos, a British aeroplane fell to the ground and turned completely over, throwing out the pilot and bursting into flames. The machine-gun ammunition caught fire, with the result that bullets were flying in all directions. Lieut. Campbell ran up and at great personal risk dragged the pilot, who was wounded, out of danger. He then placed him in a neighbouring dug-out, sent for medical assistance, and organised a party of stretcher-bearers to carry him to a dressing station.



Aero Engine Parts Urgently Wanted. A Chance for Engineering Shops.

IN view of the urgent demand for increased aero engine or aero engine parts production, as supported by the maximum priority given to this class

of work, it is of the greatest national importance that any firms who consider they are in a position to render assistance should write to the Controller of Aeronautical Supplies, Room 355, Air Board Office, Strand, W.C.2.

SOME NIEUPORT "MILESTONES."

DURING the war it has naturally been impossible for obvious national reasons for us to keep our readers as well informed regarding aeronautical progress at home and among our Allies as we should have desired. In order to be quite sure that no information that might be of value to the enemy should be published we have practically refrained from giving particulars of modern military aeroplanes used by the Allies. That large numbers of machines have fallen into the hands of the enemy there is ample evidence to prove, and that out of these a sufficient quantity of details have remained intact for him to reconstruct, a course which he has evidently followed in connection with the Nieuport 1½ plane—as the German papers term it. Articles have recently appeared in *Zeitschrift fur Flugtechnik und Motorluftschiffahrt* and *Flugsport* dealing with this machine, and we reproduce them *in extenso* not only because they illustrate one of the most successful and popular French machines but furthermore, they are of great interest in stating the German point of view and the German opinion of one of the leading makes of aeroplanes of our French Allies. That the enemy appreciation of the Nieuport is in the main favourable transpires from the articles, and is further confirmed by the fact that in the latest Albatros single-seaters the chief characteristic of the Nieuport—the 1½ plane arrangement and the Vee struts—has been embodied. Imitation is the sincerest form of flattery, and the Nieuport firm may well congratulate themselves on having been copied by the slow-moving German designer. Below are the translations from our German contemporaries.

I.

(From the *Zeitschrift fur Flugtechnik und Motorluftschiffahrt*.)

An intermediate step in the transformation from the monoplane to the biplane type of aeroplane, which latter is by far the most employed at the present day, is formed by the

the biplane (stability and short span).* At the present day the Nieuport is by far the machine most extensively employed by the French.

A great number of single-seater Nieuports, and also some two-seaters, have been captured. These machines are not uniformly built, however, and it appears that the Nieuport

Nieuport
1½-plane,
Type 12.

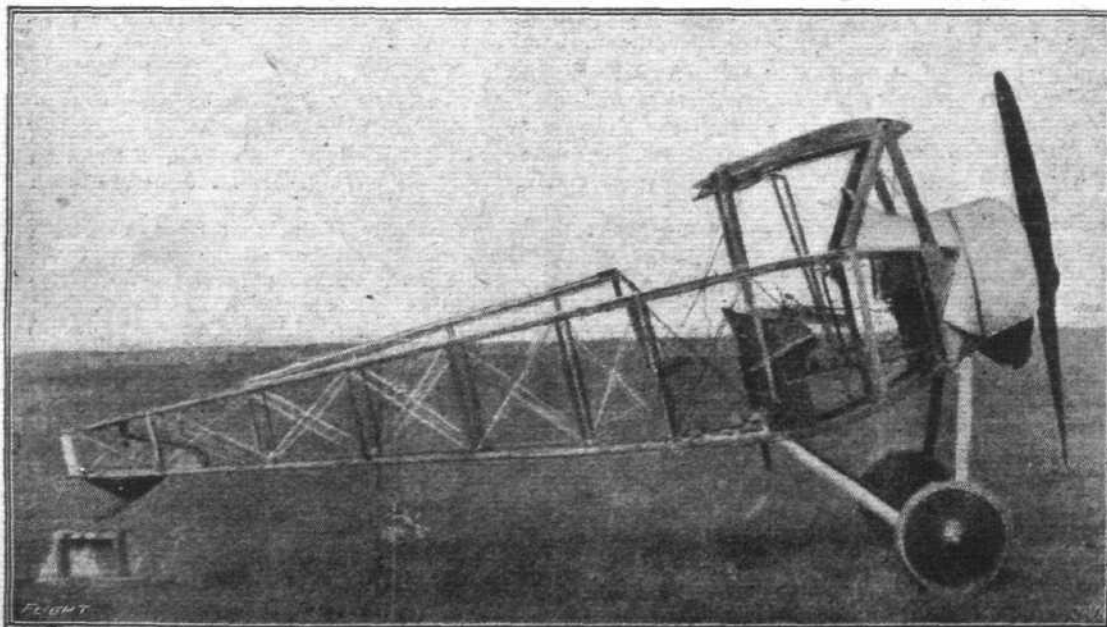


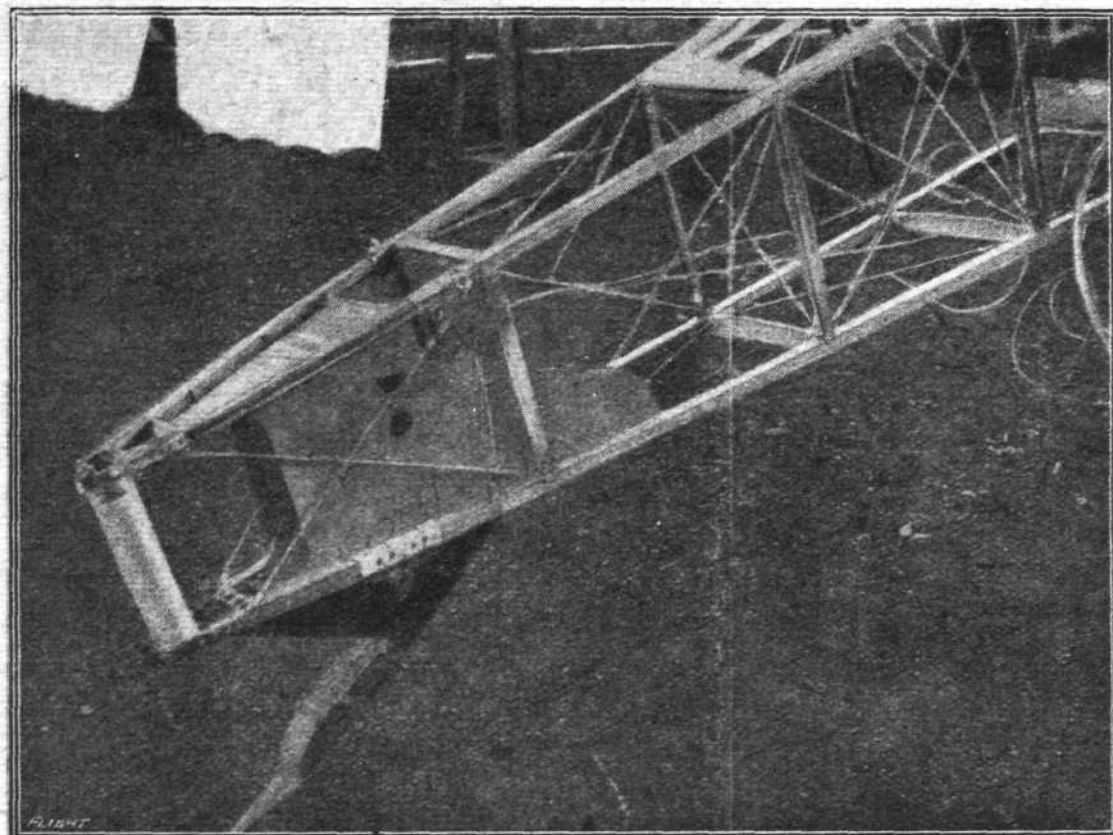
biplane with a larger top plane and a smaller bottom plane. This type is produced by the Nieuport firm, and it is said that already in 1910 the Swiss aeroplane designer Schneider, who was then connected with the Nieuport works, urged the construction of a 1½ plane, in order to combine the advantages of the monoplane (speed and ease of handling) with those of

machines are built by several firms, some of which carry out the detail construction differently. This is a great drawback from the point of view of upkeep and repair of the machines

* In this connection it might be pointed out that Schneider, who is now the designer of the German L.V.G. biplanes, is reported to have taken with him several Nieuport drawings and calculations.—Ed.

The body of
the Nieuport
1½-plane.





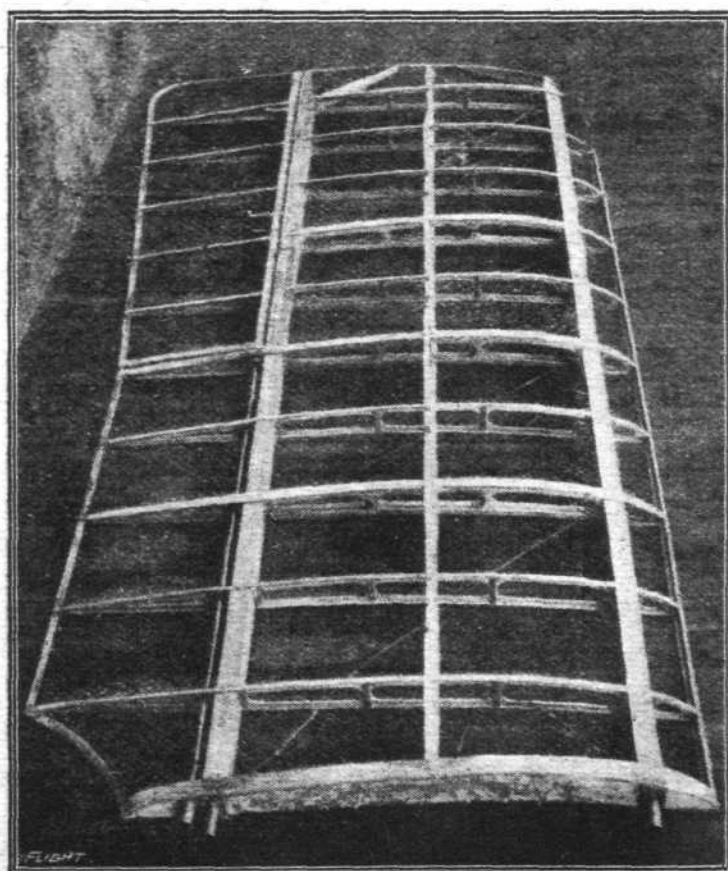
Body and tail skid
of the Nieuport
1½-plane.

in the field. Besides, improvements of the Nieuport types are constantly being made, and considerable variation in the types is caused by the employment of different types of motors. A rotary motor is always fitted, and the single-seaters usually have an 80 h.p. Le Rhone, although single seaters have been captured which had 110 h.p. Le Rhones. The two-seater

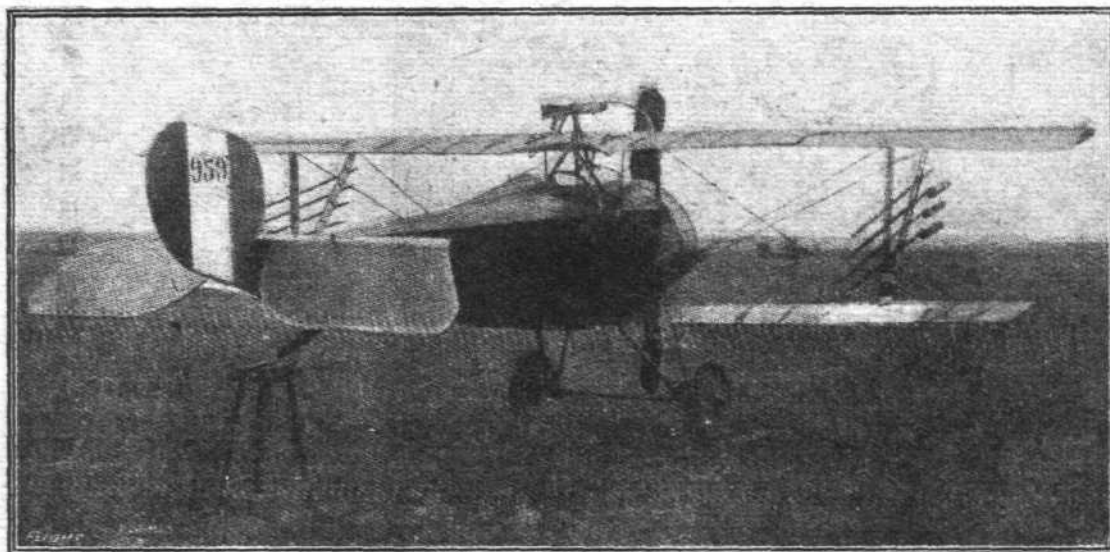
Nieuport has a 110 h.p. Clerget or Le Rhone. The rotary motor was already chiefly employed by the French at the beginning of the war, and at the present time this is still more the case. It can be stated that for chasers the rotary engine has absolutely supplanted the stationary. This is probably due to the fact that at present the light single-seater chaser predominates, and for this type the rotary engine with its light weight and short overall length is the most suitable. Evidently the aim of the present leaders of French aviation is to provide as many aircraft units as possible, and undoubtedly this view has much to recommend it. The loss of a small aircraft is of no great importance, and small, fast, handy aeroplanes are more difficult to shoot down (especially



Controls and pilot's seat of the Nieuport 1½-plane.



Framework of a Nieuport top plane.



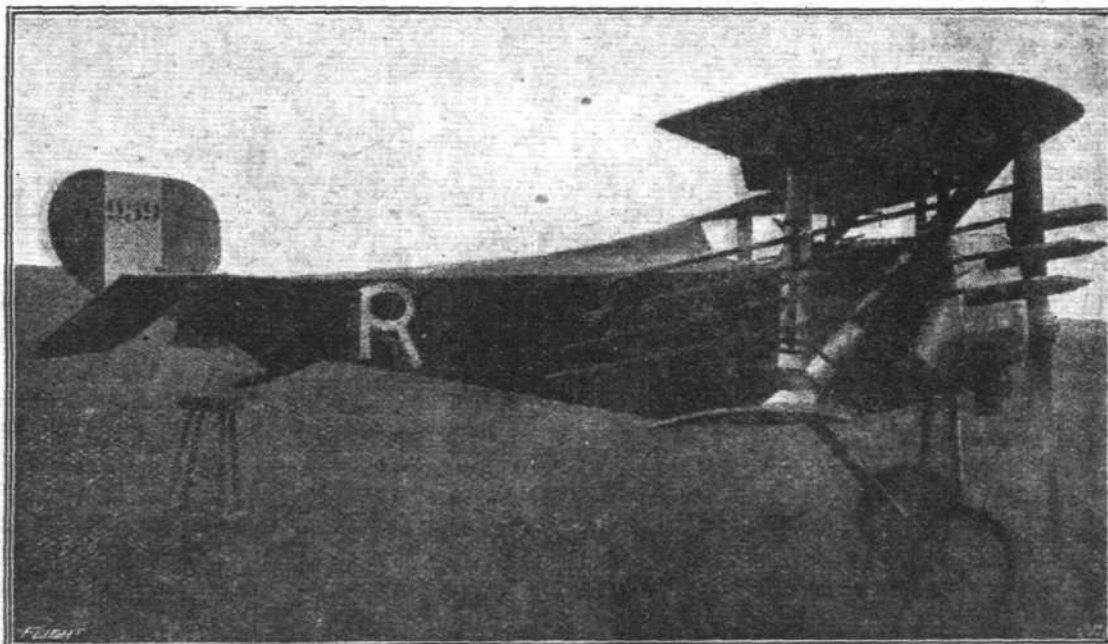
Nieuport 11-plane, Type 16. The rockets are used for attacking kite balloons and airships.

when flying high) than are large aeroplanes. On account of their greater climbing power, speed and manoeuvrability they are superior to the large machine, not only as regards attack from the ground but also in case of attack by hostile aircraft. The fighting value of the small single seater is about equal to that of a larger two-seater, even when the latter is fitted

machine gun. As up to the present the machine gun is the weapon most suitable for use on board aeroplanes, it follows that the single-seater chaser with machine gun is the machine most suitable for fighting over land as far as concerns the employment of aeroplanes for fighting hostile aeroplanes.

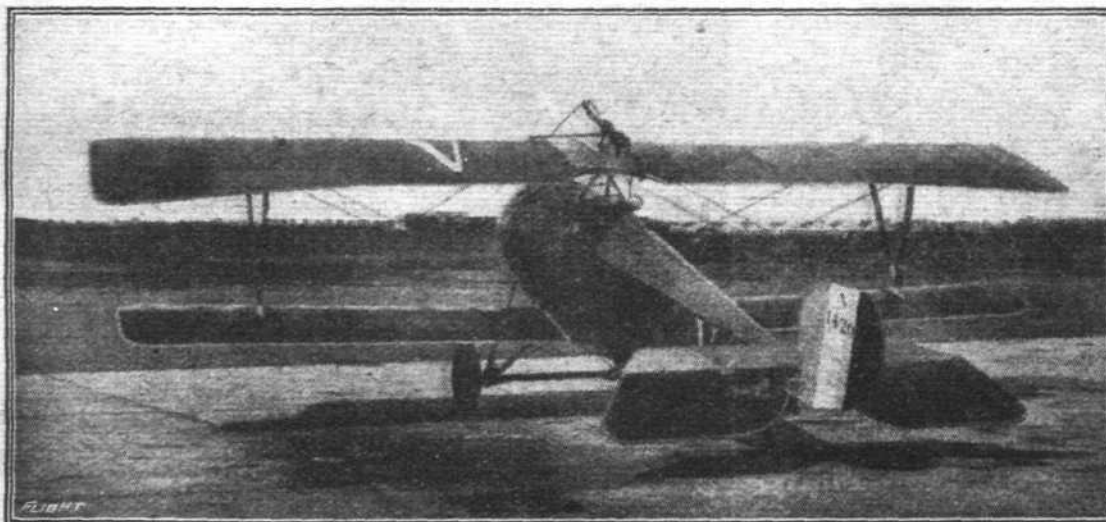
This, therefore, is the reason for the extensive employment

Side view of the Nieuport 11-plane, Type 16.



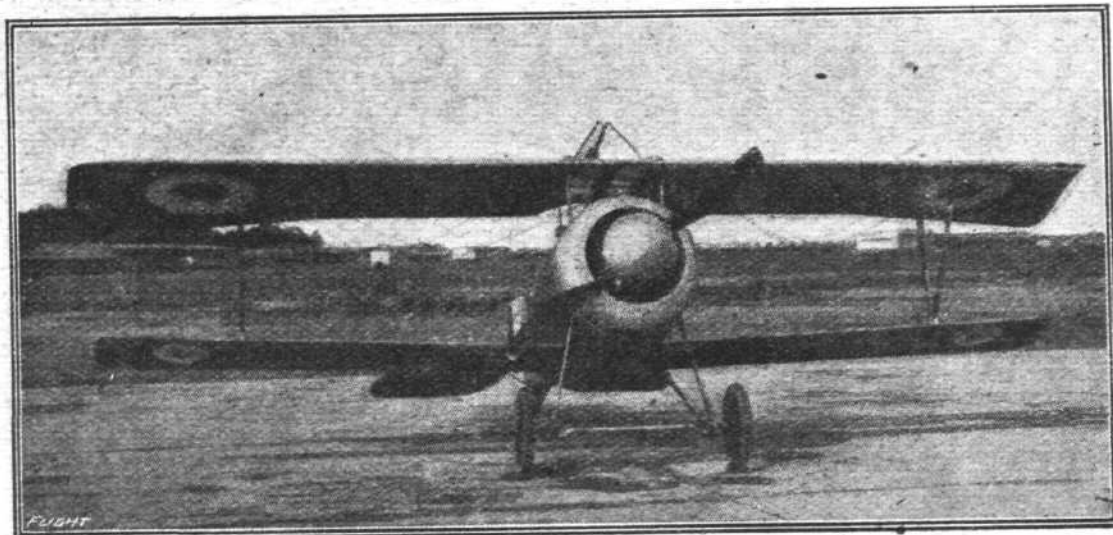
with two machine guns, one fixed and the other worked by the observer. It will rarely be possible to use the two guns simultaneously, while the handy little single-seater can make very good use of its rigidly mounted gun. This is proved by the air successes of Boelcke, Immelman and many others, who nearly always flew single-seaters, with fixed

of the Nieuport by our enemies. The Nieuport 11 plane is built according to the constructional methods followed by the French before the war, i.e., chiefly of wood with fabric covering. The fuselage is a rectangular section girder diagonally braced with wires. Towards the rear the section becomes trapezoidal, inasmuch as the bottom of the fuselage



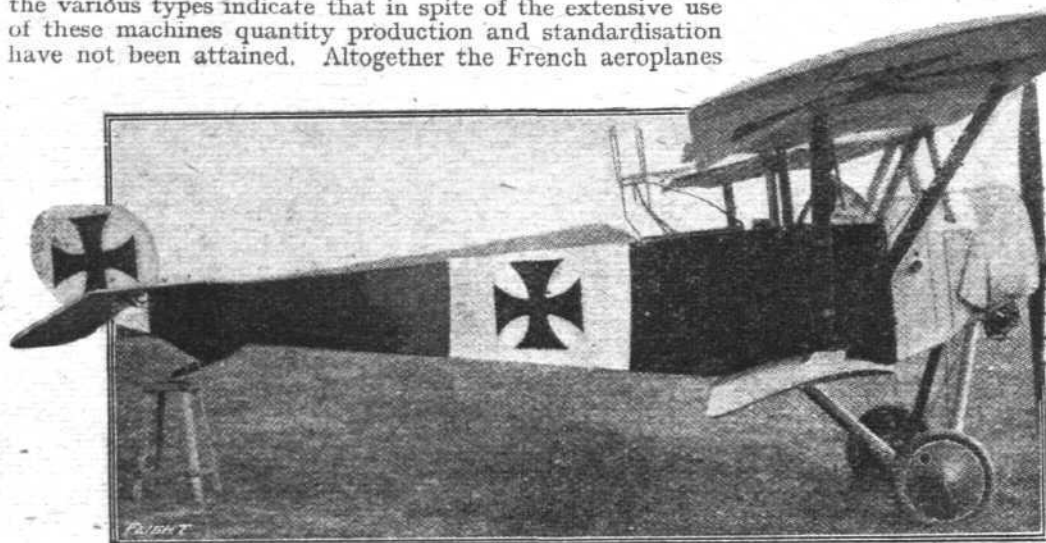
Rear view of the Nieuport 11-plane, Type 17.

Front view of
the Nieuport
1½-plane, Type 17.



is narrower than the top. The stern terminates in a vertical rudder post. The top of the body is covered with a curved turtle-back covered with fabric. The longitudinal rails of the body are made of ash, or they may be made of ash in front and of spruce in the rear. The struts and cross members are also made of wood, with the exception of those in front and the engine struts, which are steel tubes, and are spindled out for lightness. The fuselage fittings are of sheet steel with sockets for the struts and lips for the bracing wires. The fittings of the various types indicate that in spite of the extensive use of these machines quantity production and standardisation have not been attained. Altogether the French aeroplanes

greatly varying area. The upper planes have two spars, while the lower, the chord of which is much smaller, have only one spar. The angle of incidence of the lower plane is greater, about twice as great as that of the top plane. The angle of incidence varies considerably with the different types, ranging, for the top plane, from $1\frac{1}{2}^{\circ}$ to $3\frac{1}{2}^{\circ}$. The wings have a slight dihedral and backward slope, and are furthermore heavily staggered, the middle spar of the lower plane being immediately below the rear spar of the top plane. The



Nieuport two-
seater, Type 12.
Motor 110 h.p.
Clerget.

give an impression of being hand-made rather than machine-made, and many parts appeal to the German constructor as being rather a makeshift sort of job.

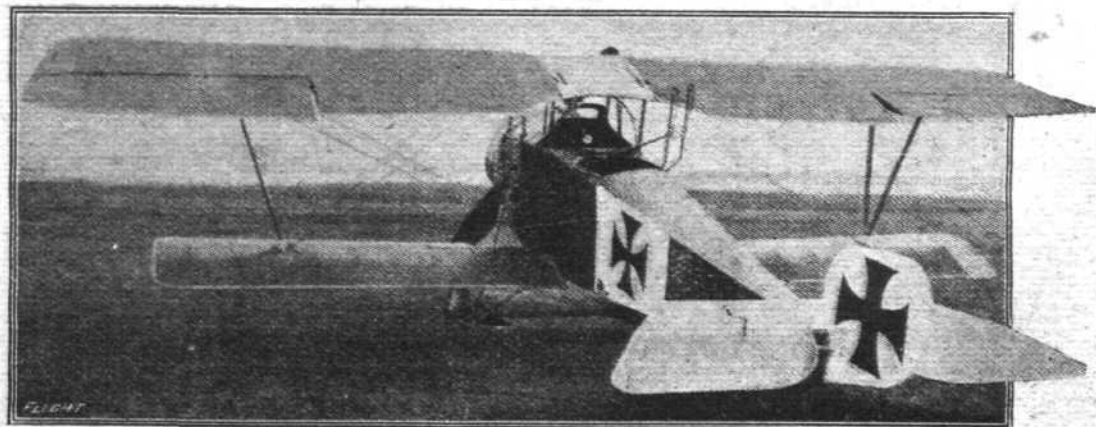
The main loads of the machine are concentrated in a narrow space near the front. That is to say, the motor, fuel tanks and pilot's seat are placed very closely together. This good centralisation is, of course, only possible when a rotary motor is employed, and increases the manoeuvrability of the aeroplane. The motor is covered with an aluminium cowl. In some types this cowl totally surrounds the engine; in others it is left open at the bottom.

The supporting surfaces are, as already pointed out, of

lower surface of the wings is nearly flat, while the upper surface is deeply cambered, thus providing a comparatively thick wing section. In some types of Nieuports, for instance in the two-seater type 15, the top plane has a centre section mounted on a system of struts. The *cabane* itself varies in its construction, but usually consists of four struts. In the types having a top plane centre section this is generally mounted on six struts.

The wing spars are of the box type and are made of spruce. At the points of attachment they are strengthened with wood fillers. The ribs are of the usual construction, the flanges being of ash and the web of lime-wood. Only the

Nieuport two-
seater, Type 12.
The Vee struts
slope outwards.



top plane is fitted with *aileron*s. The chord of these increases towards the tip, and they are secured to a shaft of steel tube, the rocking of which actuates the *aileron*s. In order to reduce the sharpness of the break in the wing curve at the front edge of the *aileron*s strips of fabric enclosing flat steel springs are employed. The tubular shafts for the *aileron*s run along the rear spar nearly to the centre, where they carry crank levers of sheet steel. These cranks are attached to the upper ends of vertical stream-line tubes, the lower ends of which are bolted to a transverse crank lever on the longitudinal rocking shaft of the controls. The *aileron*s are thus operated by pull and push rods instead of by the usual control cables. The centre section of the top plane is covered with transparent material, and its trailing edge cut away so as to provide a better view in an upward direction. The spars of the lower planes are attached to the body by means of ball joints.

The undercarriage is of the simple Vee type, and the chassis struts are made of drawn aluminium tubing of stream-line section secured in sheet steel sockets. The axle is sprung by means of rubber shock absorbers. The chassis cross member connecting the apices of the two Vees is of channel section aluminium. The wheel axle is an ordinary smooth steel tube. Nieuports have, therefore, apparently given up their well-known laminated steel spring axle. The tail skid is rigidly connected to the rear portion of the fuselage. It consists of a simple wood skid, to the rear end of which is bolted a slightly curved flat steel spring.

CHIEF CHARACTERISTICS OF THE NIEUPORT 1½ PLANE, TYPE II. (Built, 1916.)

Dimensions.			
Span, Upper plane	..	..	7,520 mm.
" -lower plane	..	..	7,400 "
Chord, upper plane	..	..	1,200 "
" -lower plane	..	..	700 "
Length, O.A.	..	..	5,750 "
Height	..	..	2,450 "
Wings.			
Area, top plane with <i>aileron</i> s	..	..	9 sq. meters
" -bottom plane	..	..	4.6 "
Total area	..	..	13.6 "
Area of tail plane	..	..	1 "
" -elevators	..	..	1.34 "
" -rudder	..	..	0.58 "
" - <i>aileron</i> s	..	..	1.32 "
Stagger of leading edge	..	..	680 mm.
Gap	..	..	1,230 "
Dihedral angle, top plane	..	..	179°
" -bottom plane	..	..	174°
Backward slope	..	..	170° 30'
Angle of incidence, top plane	..	..	1° 30'
" -bottom plane	..	..	3°
Weights.			
Top plane with fittings	..	..	36.0 kg.
Bottom plane with fittings	..	..	14.5 "
Tail plane	..	..	3.5 "

Elevators	..	..	4.3 kg.
Rudder	..	..	3.0 "
Body with motor complete	..	..	265.0 "
Bracing cables	..	..	3.5 "
Wheels	..	..	10.2 "
Plane struts	..	..	5.0 "
Total weight (empty)	..	..	345.0 "
Pilot	..	..	80 "
78 litres of petrol	..	..	55.0 "
20 litres of oil	..	..	20.0 "
Machine gun with ammunition	..	..	50.0 "
Useful load	..	..	205.0 "
Total weight ("all up")	..	..	550.0 "
Loading	..	..	40.4 kg./sq. m.
Efficiency loading	..	..	5.5 kg./h.p.

Power unit.

The motor is an 80 h.p. Le Rhone, and the screw a Levasseur of 2,500 mm. diameter and 270 mm. blade width. The single petrol tank is main tank and service tank at the same time, and is built in just in front of the pilot's seat. The oil tank is of segment-shaped section and is mounted under the cowl immediately behind the motor. The engine controls are mounted to the left of the pilot. The petrol gauge is in the form of a glass level indicator. The engine cowl is held in place by a steel band.

The machine gun, which is of the Lewis type, is mounted on the top plane, and has a drum containing 48 pounds. It is possible to change this drum with one hand, and the gun is fired by means of Bowden controls. Sights are provided above the body.

Performance obtained.

1,000 metres in	4 minutes.
2,000 "	7 "
3,000 "	11 "
4,000 "	16 "

Wing construction.

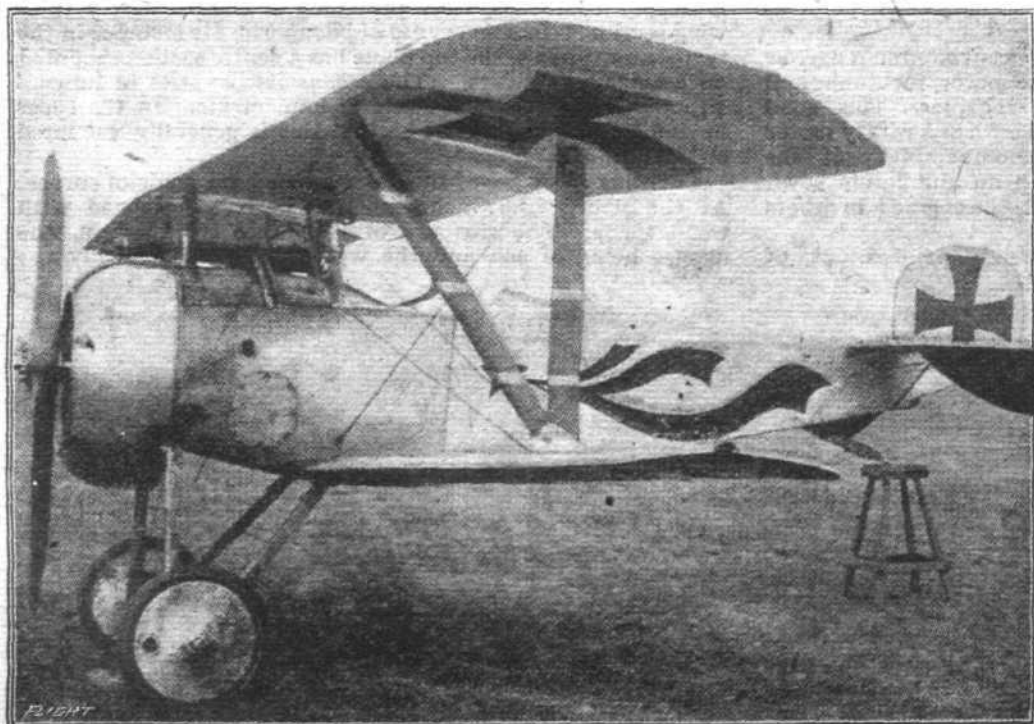
The top plane is normally built with two main spars, while the bottom plane, which has a small chord, has only one main spar. There is only one pair of inter-plane struts on each side, and these are in the shape of a Vee. The rectangular spar of the lower plane is provided with packing pieces that turn it into a circular section at the point of attachment, and its incidence can therefore be regulated during the process of erecting.

The wing covering is tacked on, and the leading and trailing edges have protective tapes glued on.

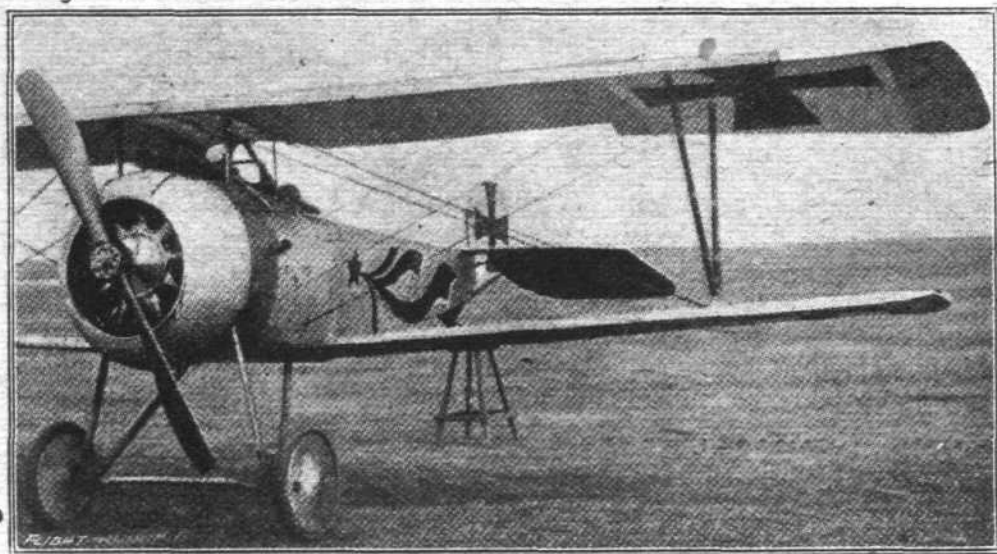
II.

(From Flugsport.)

Of all the French aeroplanes the Nieuport has been the most important of the fighting machines. Before the advent of the modern Spad it was the machine most sought after by pilots. It was built by a number of different firms, not only in France but also in England and Russia, and hence arose the variety in detail construction even for a given type. The Nieuport may be divided into three main types.



Nieuport single-seater fighter, Type 17, with fixed machine gun.



Nieuport single-seater fighter, Type 17, with fixed machine gun.

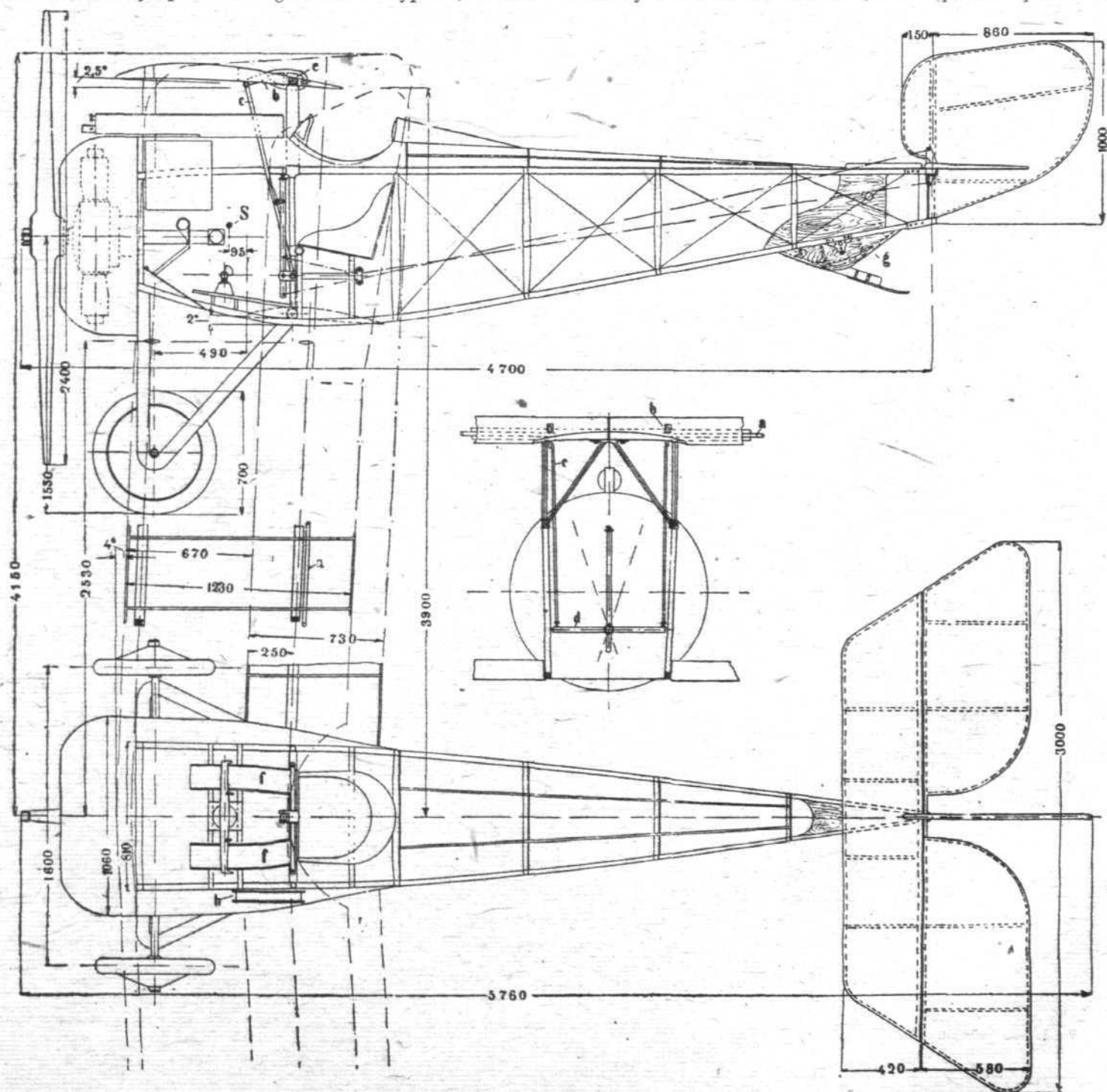
a two-seater, has its Vee-shape inter-plane struts sloping outwards as seen from in front. (See illustration.) In this type the top plane has a fixed centre section, and is covered with Cellon sheets in order to give a better view. The power is provided by a 110 h.p. Clerget engine. The observer sits behind the pilot.

As one of the more important types must be mentioned Type 17. In this single-seater fighter the body is of circular section in front, and some specimens of the type have a "spinner" over the propeller boss. The front lift cable in this type is not taken to the point where the lower spar joins the body, but to a point on the body farther forward, where the front chassis strut is attached to the body. The general arrangement resembles that of Type 11.

The ailerons are mounted on steel tubes *a* (see drawing) inside the wing and running along the back of the rear lever by means of the cranks *b*, the

Type 11, which is the oldest, is a single seater with rectangular section body up to the engine cowl. Type 12, which is

spar to the body. These tubes are operated from the control lever by means of the cranks *b*, the



Scale drawings (in mm.) of the Nieuport single-seater.

and the crank lever *d*. The cranks *b* are hollowed out at *e* to provide clearance for the rear spar. The top plane has slots cut in it for the cranks *b*. The pull rods *c* are connected to the crank lever *d* by ball joints. The hand lever and rudder pedal are of the most varying types. Those shown in the drawing are the most usual. The top of the rear portion of the body is generally covered with curved plywood. The tail skid is supported on a structure of three-ply, *g*, projecting down from the framework of the body. The machine gun is rigidly mounted over the centre of the body directly in front of the pilot. On the right there is a drum on which the belt with the loaded cartridges is wound. The empty belt is wound on a drum, *h*, on the left, the drum being provided with a spring to keep the belt taut. The empty cartridges are conducted out of the machine through a tube in the usual way.

AIRCRAFT ENGINEERING NOTES.

The Supply of Aluminium.

THE enormous increase in the amount of aluminium which is being used for motors in one way or another, is such that it may be necessary to produce this metal from kaolin instead of from bauxite as at present, according to Dr. F. C. Weber, a Chicago industrial chemist. Since their supply of bauxite has been cut off Germany has had to utilise the deposits of kaolin in Saxony and Thuringia to obtain her necessary supply of aluminium. Bauxite—a mineral composed of impure aluminium hydroxide—is obtained from Baux, near Arles, in France, but it is also found in Ireland and in the United States in Arkansas, Georgia and Alabama. Kaolin is a hydrated aluminium silicate, and is better known as china clay or fire clay. It is found in Cornwall, Limoges in France, in China, the East Indies and the United States. According to Dr. Weber the supply in the last-mentioned country—the largest deposits are in Illinois—are practically inexhaustible. At his suggestion the U.S. Council of National Defence is to consider the question of developing the industry in this direction.

A method has been patented in the U.S. for obtaining aluminium from aluminium carbide. The latter is mixed with 10 to 20 per cent.—by weight—of oxide, chloride, or sulphide of Al, and the charge is then reduced in a vertical electric furnace at 2100 to 2200° C. under a pressure of 10 to 15 lbs. per sq. in. above atmospheric. When alloys are required, oxide, chloride or sulphide of the respective metal is added in such proportion as to obtain a eutectic alloy. In the case of copper, for instance, the proportions would be Cu 5.8 per cent. and Al 94.2 per cent.

Novelties in Fuels, and their Use.

Excellent as are the carburettors of to-day, the cry goes up for something still better. Developed from an apparatus which was nothing more or less than a measuring device, the carburettor of to-day retains that characteristic. When it was first introduced motor spirit was so volatile that all that was needed was to measure off the proper quantity of spirit and the requisite amount of air and they could be left to form the necessary gas. As far as aviation is concerned at the present time, the position is little changed, as the aeromotor has the best spirit reserved for it. The time is coming, however—who knows how soon—when the enormous increase in the number of internal-combustion engines in use for an indescribable variety of purposes will necessitate serious attention being given to the question of providing new fuels and improved methods of utilising existing ones. It may well be that in place of the present measuring device, the carburettor may develop into a gas-maker, after all what is usually termed a petrol engine is nothing more or less than a gas engine.

In this connection it is interesting to notice a novel method for starting and running internal combustion engines—which is the patent of Mr. F. E. Smith and Vickers, Ltd.—even although at the moment the aeromotor is outside the range of its application. The fuel is a composition of various ingredients, one mixture being 41 parts potassium nitrate, 41 parts charcoal and 18 parts sulphur, with sufficient moisture to make it plastic. Not the least important feature of the scheme is that by which only partial combustion is secured in the first cylinder, the residue of energy being utilised in the

Type.	Nieuport 1½ plane.		
	No. 11.	No. 12.	No. 17.
Characteristics	One-seater, square body.	Two-seater, Vee struts slope outwards	One-seater, Body round in front.
Motor ..	80 h.p. Le Rhone.	110 h.p. Clerget.	110 h.p. Le Rhone.
Span—			
Top ..	7.520	9.200	8.300
Bottom ..	7.400	7.460	7.800
Chord—			
Top ..	1.200	1.820	1.230
Bottom ..	700	900	730
Total area ..	13.65 sq. m.	22.2 sq. m.	15.6 sq. m.
Angle of incidence—			
Top ..	1° 40'	2° 30'	2° 30'
Bottom ..	3°	3° 30'	2°

second cylinder by the addition of air or oxygen, the process being repeated continuously. For starting purposes, by igniting a cartridge of the fuel a reservoir can be immediately charged with gas at high pressure, which can be used for the engine.

Some Carburettor Problems.

In an address on the subject of "Aero Engines" before the American Association of Mechanical Engineers, Prof. Charles E. Lucke, who has carried out a great deal of research work in connection with fuels, emphasised the fact that carburettors are not yet satisfactory, and as soon as satisfactory carburettors were secured from the point of view of proportionality of the mixture a reduction in fuel consumption, as well as more reliable operation, might be looked for. He also laid stress upon the importance of obtaining dry mixtures. When mixtures are wet, that is, not completely vaporised, the air and fuel cannot be uniformly distributed, and the use of pressure gauges will show it is rarely that two cylinders will show the same maximum pressures. Drying of the mixture will not only cure that fault, but will also obviate carbonisation troubles. A third important factor, he said, was that of homogeneity. However accurately the mixture might be adjusted as to fuel and air ratio, however carefully the mixture might be distributed, the fact remained, that in order to produce economical results the charge in any one cylinder must be uniform in every cubic inch of it. It is not sufficient to get the right amount of air and the right amount of fuel in the cylinder if the latter is all in one corner. From questions of mixture quality Prof. Lucke went on to speak of plane propagation, and spoke of the advantages of having the sparking plug in the centre of the head, a location which it will be remembered is strongly advocated by Mr. Louis Coatalen.

Dealing with the question of valve-setting, Prof. Lucke said that most people had played with cams and adjusted them backward and forward by guesses; he strongly urged the use of the air meter, which was the only positive means of arriving at best cam forms and valve timing for sustained mean effective pressure at high speeds.

All-Steel Aero Engines.

Not the least interesting part of Prof. Lucke's paper came right at the end, when he expressed the opinion that the aeronautical engine was emerging from the stage of invention to the stage of design, as a light, high-tensioned steel structure, consisting of seamless tubing and forged or welded steel parts, possibly formed in drop-forged dies. In addition to the steel-stress structure, certain members such as the piston, exhaust valve and guide, would have to be designed primarily for heat-flow conditions and not for stresses, while certain closing members such as the inlet and exhaust ports could be cast in aluminium.

A pertinent thing which Prof. Lucke had to say on the subject of pistons was that he felt convinced, after seeing any number of broken and burnt pistons, that it was about time designers stopped cutting the metal out of the pistons and began putting in considerably more metal. The additional weight was not going to injure the motor at all, but would permanently have the effect of enabling it to run longer periods of time.

A New Cross-Country Record.

CAPT. GIULIO LAUREATI has broken the world's flight record by flying from Turin to Naples and back without descending, reported the *Times* correspondent at Milan on August 26th. Capt. Laureati, who piloted a new model

Sia with a Fiat motor, left Turin at 10.7 a.m. on that date, arrived at Naples at 2.30 p.m., and after circling over that city returned to Turin, where he arrived at 8.40 p.m. The distance from Milan to Naples is 460 miles, so Capt. Laureati must have covered 920 miles.

ROYAL AERO CLUB OF THE U.K.

OFFICIAL NOTICES TO MEMBERS.

FLYING SERVICES FUND SUB-COMMITTEE.

A MEETING of the Flying Services Fund Sub-Committee was held on Monday, August 27th, 1917, when there were present:—Major T. O'B. Hubbard, R.F.C., in the Chair, Mr. Chester Fox and Squadron-Commander C. E. Maude, R.N.

Applications for Assistance.—Eleven applications for assistance from the Fund were considered, and grants and allowances were recommended respectively:—

1. To a Petty Officer of the Royal Naval Air Service who had been injured on Active Service.
2. To a Chief Petty Officer of the Royal Naval Air Service who had been incapacitated on Active Service.
3. To the mother of a Chief Petty Officer of the Royal Naval Air Service who had been killed on Active Service.
4. To a First Class Air-Mechanic of the Royal Flying Corps who had been incapacitated on Active Service.
5. To the wife of a Corporal of the Royal Flying Corps who had been killed on Active Service.

THE FLYING SERVICES FUND administered by THE ROYAL AERO CLUB.

THE Flying Services Fund has been instituted by the Royal Aero Club for the benefit of officers and men of the Royal

Naval Air Service and the Royal Flying Corps who are incapacitated on active service, and for the widows and dependants of those who are killed.

The fund is intended for the benefit of all ranks, but especially for petty officers, non-commissioned officers and men.

Forms of application for assistance can be obtained from the Royal Aero Club, 3, Clifford Street, New Bond Street, London, W. 1.

Subscriptions. £ s. d.

Total subscriptions received to Aug. 21st, 1917 11,884 0 10

G. H. Mansfield, Managing Director of the Aircraft Supplies Co., Ltd., 17, John Street, Theobald's Road, W.C.; Proceeds of the sale of copies of "Standard A.G.S. Parts for Aircraft," by Bernard Isaac (Fifth contribution, making a total of £21 3s.) .. 3 17 6

Ruston, Proctor and Co., Ltd., Aircraft Works (Twenty-first contribution) .. 1 0 0

Total, August 28th, 1917 .. 11,888 18 4

H. E. PERRIN, Secretary.

3, Clifford Street, New Bond Street, W. 1.

"X" AIRCRAFT RAIDS.

IN view of the decision of the Government not to allow details of places visited by enemy aircraft to be published, we are, as before, giving to each one an index number. Eventually, when details are available, we shall give the respective information under these index numbers, which will facilitate easy reference to each particular raid.

"X" 69 Raid (August 21st-22nd).

THE following *communiqués* were issued by the Field-Marshal, Commanding-in-Chief, Home Forces, on August 23rd:—

" 11.15 a.m.

"Enemy airships—numbers not definitely ascertained—appeared off the Yorkshire coast last night.

"One of the raiders attacked the mouth of the Humber, and was fired on by anti-aircraft guns. She dropped some bombs and then made off to sea.

"The damage so far reported is slight, but one man was injured."

" 4.10 p.m.

"Latest reports show that, although a number of enemy airships approached the Yorkshire coast last night, only one, or at most two, ventured to come overland. Twelve high-explosive and 13 incendiary bombs were dropped at three small villages near the coast; a chapel was wrecked and several houses damaged. One man was injured."

German Version.

An official telegram issued from Berlin on August 24th states:—

"On approaching the British coast bombs were lavishly dropped on enemy outpost vessels. The naval forces and land batteries fired briskly at our airships, which replied with well directed volleys upon Spurn Head battery. Towards 2 o'clock in the morning large quantities of explosives were dropped on Hull, and good incendiary and destructive effects were observed. The airships also dropped bombs on Lincoln with observed good effect. Bombs were dropped on the southern bank of the Humber near East Grimsby, upon brightly illuminated factories and sheds, which were well hit. The collapsing of buildings and the extinguishing of lights showed the effect. On their return our airships again were fruitlessly fired at from land and sea, and were able to drop their last bombs with good effect on the naval forces which were firing at them."

It is officially announced that none of His Majesty's ships were damaged.

"X" 70 Raid (August 22nd).

THE following *communiqués* were issued on August 22nd by the Field-Marshal, Commanding-in-Chief, Home Forces:—

" 1.10 p.m.

"Ten enemy aeroplanes approached the Kentish coast near Ramsgate at about 10.15 a.m. Being met and heavily engaged by machines of the R.F.C. and R.N.A.S., as well as by gunfire from anti-aircraft guns, the raiders were unable to penetrate inland. A small party travelled west as far as Margate, but then turned homeward. The remainder skirted

the coast to the south as far as Dover. Bombs were dropped at Dover and Margate. Casualties reported at present are three persons killed and two injured. The material damage is slight. Two of the enemy machines were brought down by anti-aircraft gunfire and our own aeroplanes."

" 3.35 p.m.

"The latest police report shows that bombs were dropped by the raiding aeroplanes this morning at Dover, Margate and Ramsgate. No casualties occurred at Margate, but at Dover and Ramsgate 11 persons were killed and 13 injured. A hospital and a number of houses were damaged. One of the enemy pilots was rescued, having been only slightly injured."

" Admiralty, August 22nd.

"In amplification of Lord French's report issued earlier to-day, ten enemy aeroplanes of the Gotha type were attacked by naval aeroplanes in the vicinity of Ramsgate between 10 and 11 a.m. to-day. The enemy machines, which were flying at a height of between 11,000 and 12,000 ft., were closely engaged, and, in addition to the two mentioned by Lord French in his earlier *communiqué*, another was shot down by R.N.A.S. machines close to the coast. The remaining seven Gothas returned to seaward, followed by numerous naval aircraft. The pilot of an R.N.A.S. aeroplane which chased the raiders over sea reports that after firing 300 rounds of ammunition into one of the enemy machines, both gunners appeared to be killed. There was no fire in reply, even at 20 yards distance. As yet no report of the action taken by our aircraft at Dunkirk has been received."

" Admiralty, later.

"The following report has been received from Vice-Admiral Dover, relative to the action taken by the R.N.A.S. at Dunkirk. Several flights of machines were sent out to intercept the enemy aircraft returning from England. One flight of three machines met 12 Gothas 35 miles north of Nieuport, and engaged them, chasing them to Zeebrugge, but with no decisive result. Another of our patrols of 10 machines engaged a flight of about 25 enemy escorting scouts, who were off the coast awaiting the return of the enemy bombers, and in the ensuing fight five enemy aircraft were driven down completely out of control, and probably some more, but in the close fighting accurate counting was impossible. All our machines returned safely."

" Press Bureau, August 23rd.

"The total number of casualties in Wednesday's aeroplane raid on Ramsgate and Dover was: Killed, 11; injured, 26."

German Versions.

" Berlin, August 22nd.

"The bomb attacks of our aviators against fortified towns on the English coast to-day were successful."

" Berlin, August 23rd.

"During the aerial attack on the English coast the military establishments at Margate, Ramsgate and Dover were successfully bombarded. During numerous aerial engagements the enemy lost three aeroplanes. Two of ours have not returned."

THE ROLL OF HONOUR.

REPORTED by the Admiralty:—

Killed.

Prob. Flight Officer L. Code, R.N.
Flight Sub-Lieut. C. B. Cook, R.N.
Flight Sub-Lieut. T. L. Glasgow, R.N.
Prob. Flight Officer H. S. Holroyd, R.N.
Ob. Sub-Lieut. A. I. Hutton, R.N.
Flight Sub-Lieut. F. C. Lewis, R.N.
Flight Sub-Lieut. A. S. Woodall, R.N.
Flight-Lieut. C. J. Wyatt, R.N.

Drowned.

J 28710 Actg Air-Mech., 1st Gr., H. F. Moore.
F 6276 Air-Mech., 2nd Gr., H. R. Ward.

Injured.

Flight Sub-Lieut. R. L. Brown, R.N.
Sqdn. Comdr. J. I. Harrison, R.N.
Flight-Lieut. D. B. Hobbs, D.S.O., D.S.C., R.N.

Slightly Injured.

Flight Sub-Lieut. R. McN. Keirstead, R.N.
Prob. Flight Officer R. Sykes, R.N.
Prob. Flight Officer E. A. B. Wimbush, R.N.

Missing.

Flight Sub-Lieut. E. A. Bennetts, R.N.
Flight Sub-Lieut. C. R. W. Hodges, R.N.
Flight-Comdr. P. A. Johnston, R.N.
Flight Sub-Lieut. C. Lowther, R.N.
Flight Sub-Lieut. C. H. Weir, R.N.

Reported by the War Office:—

Killed.

2nd Lieut. J. E. Goodman, R.F.C.
Lieut. D. Y. Hay, R.W. Kent and R.F.C.
2nd Lieut. C. E. Holaway, Yeo. and R.F.C.
2nd Lieut. F. E. Kibblewhite, Sher. For. and R.F.C.
2nd Lieut. P. G. Kirk, Camb. and R.F.C.
2nd Lieut. C. G. Meudell, R.F.C.
2nd Lieut. C. L. Phipps, R.G.A., attd. R.F.C.
Capt. F. L. Reincke, D. of Well., attd. R.F.C.

Accidentally Killed.

Lieut. E. C. Brown, E. Ont. R., attd. R.F.C.
2nd Lieut. R. S. M. Bruce, R.F.C.
Lieut. C. C. S. Montgomery, B. Col., attd. R.F.C.
2nd Lieut. C. Sheehan, R. Muns. F., attd. R.F.C.

Previously Missing, now reported Killed.

2nd Lieut. A. H. Bates, R.F.C.
Lieut. E. T. C. Brandon, R.F.C.
2nd Lieut. J. H. Muir, R.F.C.
2nd Lieut. H. S. Pell, R.F.C.
Lieut. P. J. B. Powell, A.S.C., attd. R.F.C.
Lieut. H. P. Sworder, R.W. Surr. R., attd. R.F.C.
2nd Lieut. B. W. White, L'pool. R., attd. R.F.C.
2nd Lieut. V. F. Williams, R.F.C.

Previously Missing, believed Killed, now reported

Killed.

2nd Lieut. A. H. Searle, Aust. F.C.

Died.

47406 2nd Air-Mech. J. E. Angus, R.F.C.
18286 1st Air-Mech. A. F. Lyons, R.F.C.

Died of Wounds.

2nd Lieut. C. A. Barlow, R. Suss., attd. R.F.C.
2nd Lieut. A. Robertson, R.F.A., attd. R.F.C.
8306 2nd Air-Mech. W. H. Eldridge, R.F.C.

Previously Wounded, now reported Died of Wounds.

2nd Lieut. A. W. Gordon, R.F.C.
Lieut. K. J. Snowden, S. Lanc., attd. R.F.C.

Previously Missing, now reported Died as Prisoner in Turkish hands.

6242 2nd Air-Mech. S. G. Butler, R.F.C.

Wounded.

Lieut. E. L. Ardley, R.F.C.
2nd Lieut. H. Arnold, R.F.C.
Capt. J. S. Barnes, R.F.C.
Lieut. A. J. F. Bawden, Dur. L.I., attd. R.F.C.
2nd Lieut. H. K. R. Bent, M.C., R.F.A., attd. R.F.C.
Lieut. A. Binnie, R. Scots, attd. R.F.C.
2nd Lieut. W. R. Brookes, R.F.C.
2nd Lieut. J. Cawley, Manch., attd. R.F.C.
Lieut. W. H. Davies, R. Scots, attd. R.F.C.
2nd Lieut. J. Doulgas, R.E., attd. R.F.C.

2nd Lieut. M. H. Drake, R.F.C.
Lieut. P. M. L. Edmunds, Lancers, attd. R.F.C.
Capt. G. W. Frost, Sher. For., attd. R.F.C.
Capt. C. H. Gardner, R.F.A. and R.F.C.
Lieut. B. C. R. Grimwood, R.F.A., attd. R.F.C.
2nd Lieut. H. W. Hamer, Lanc. Fus., attd. R.F.C.
2nd Lieut. E. T. L. Jones, R.F.C.
2nd Lieut. J. T. Long, Middx. R., attd. R.F.C.
2nd Lieut. J. C. Lowenstein, R.F.C.
2nd Lieut. H. D. Luxton, R.F.C.
2nd Lieut. D. A. MacKerron, A. and S. Hrs. and R.F.C.
2nd Lieut. I. M. McLean, R.F.C.
2nd Lieut. A. N. Maplestone, R.F.C.
Lieut. R. Mason, K.O.Y.L.I., attd. R.F.C.
2nd Lieut. W. H. Maturin, R.F.C.
Capt. J. Mitchell, M.C., R.A., attd. R.F.C.
2nd Lieut. E. T. Molyneux, R.F.C.
2nd Lieut. A. E. Manchester, R.F.C.
2nd Lieut. J. M. Nicholl-Carne, R.F.C.
2nd Lieut. J. H. C. Nixon, R.F.C.
Lieut. W. Nuttall, Lanc. Fus., attd. R.F.C.
2nd Lieut. H. Orchard, Wilts. R., attd. R.F.C.
Capt. J. McA. M. Pender, Sea. Hrs., attd. R.F.C.
2nd Lieut. E. W. Pritchard, R.F.C.
2nd Lieut. T. N. Robinson, R.F.A. and R.F.C.
2nd Lieut. B. F. Sandy, R.F.C.
2nd Lieut. C. K. Smith, R.F.C.
Lieut. J. S. Stevenson, A.S.C., attd. R.F.C.
Lieut. R. N. Treadwell, R.F.C.
2nd Lieut. C. F. Le P. Trench, R.F.C.
Lieut. H. L. Waite, R.F.C.
2nd Lieut. P. F. H. Webb, R.F.C.
2nd Lieut. G. A. Wells, R.F.C.

Missing.

2nd Lieut. A. R. Baker, R.F.C.
2nd Lieut. A. N. Barlow, R.F.C.
2nd Lieut. H. E. Biederman, Yeo. and R.F.C.
Lieut. A. Calder, Oxf. and Bucks. L.I., attd. R.F.C.
Lieut. P. G. Cameron, R.G.A., attd. R.F.C.
Capt. P. W. Chambers, R.F.C.
2nd Lieut. W. Chivers, R.F.C.
2nd Lieut. G. Colledge, Yeo. and R.F.C.
2nd Lieut. D. P. Collis, R.F.C.
Lieut. R. Cornford, R.F.C.
Lieut. W. D. Cullen, E. Surrey and R.F.C.
Lieut. D. B. Davies, R.F.C.
2nd Lieut. C. W. Elliott, R.F.C.
2nd Lieut. N. Field, Manch. R. and R.F.C.
Capt. W. A. Fleming, M.C., Devon R., attd. R.F.C.
2nd Lieut. G. T. Fullalove, R.F.C.
Lieut. D. Gordon, A. and S. High. and R.F.C.
Lieut. C. G. Guy, North'd. R. and R.F.C.
2nd Lieut. P. G. Harris, R. Welsh Fus., attd. R.F.C.
2nd Lieut. J. F. Henderson, R.F.C.
Capt. A. R. Hudson, Yeo. and R.F.C.
Lieut. C. D. Hutchinson, S. Staff. R., attd. R.F.C.
Capt. A. B. Jarvis, Middx. R. and R.F.C.
2nd Lieut. R. N. W. Jeff, R.F.C.
2nd Lieut. C. G. Mallous, R.F.C.
2nd Lieut. P. L. McGavin, R.F.C.
2nd Lieut. F. M. McLaren, R.F.C.
Lieut. C. G. Moore, R.F.C.
2nd Lieut. S. L. Nichols, R.F.C.
2nd Lieut. S. J. Oliver, R.F.C.
Capt. T. A. Oliver, R.F.C.
2nd Lieut. D. A. Page, Ches. R., attd. R.F.C.
Capt. W. G. Pender, M.C., R.F.C.
Capt. H. E. Read, Yeo. and R.F.C.
2nd Lieut. L. Read, R.F.C.
Lieut. R. H. Sawlor, N.B. Regt., attd. R.F.C.
2nd Lieut. A. T. K. Shipwright, R.F.C.
2nd Lieut. S. Sillem, R.F.C.
2nd Lieut. G. M. Smith, A.S.C., attd. R.F.C.
2nd Lieut. J. B. Smith, Black Watch and R.F.C.
2nd Lieut. H. D. B. Snelgrove, R.F.C.
Lieut. C. R. Thomas, R.F.C.
2nd Lieut. H. G. Tinney, R.F.C.
2nd Lieut. D. Townsend, R.F.C.
Lieut. E. A. H. Ward, W. York. R. and R.F.C.
2nd Lieut. E. S. Ward, Oxf. and Bucks. L.I., attd. R.F.C.
Capt. N. W. Webb, M.C., R.F.C.
Lieut. D. S. Wilkinson, R.F.C.
Capt. R. M. Williams, R. Welsh Fus., attd. R.F.C.
2nd Lieut. W. H. T. Williams, R.F.C.
Lieut. J. G. Young, Leins. R., attd. R.F.C.

Previously Missing, now reported Prisoners in German hands.

Capt. F. P. Dow, Yeo. and R.F.C.
2nd Lieut. G. T. Harker, R.F.C.

Lieut. E. H. Stevens, E. Lanc., attd. R.F.C.
Lieut. D. S. Weld, W. Ont., attd. R.F.C.

Correction: Missing.
Lieut. H. G. Nickalls, Yeo. and R.F.C., should read Lieut. H. Q. Nickalls, Yeo. and R.F.C.

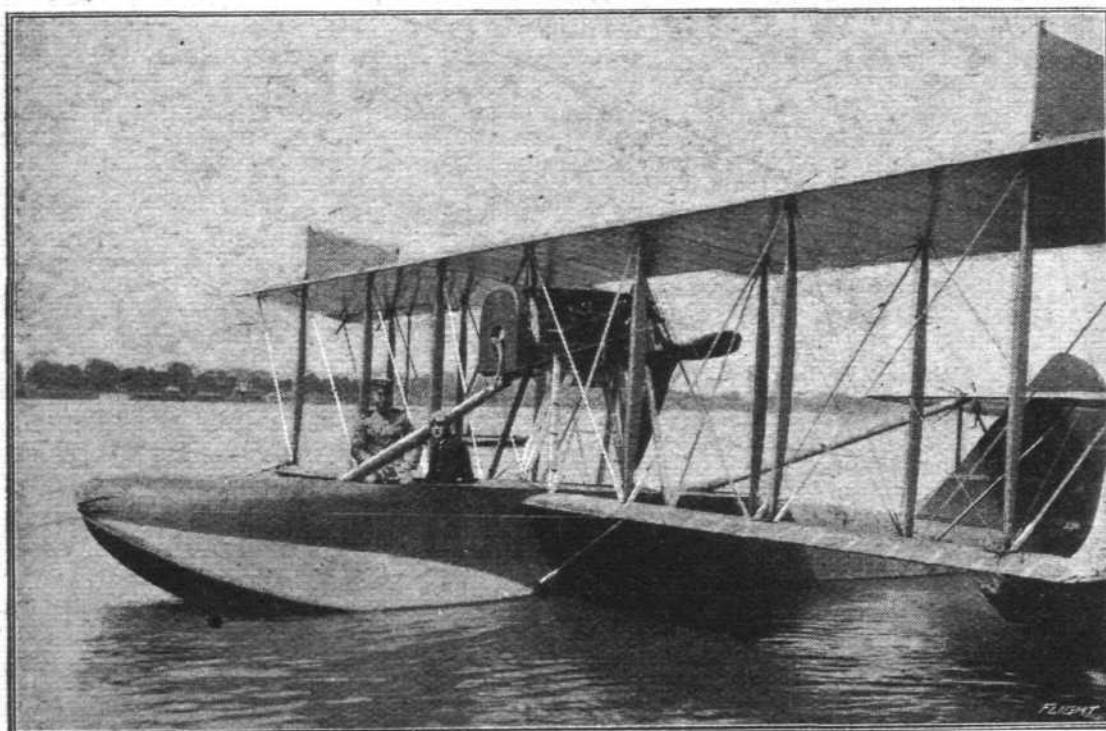


THE NEW CURTISS H-S-1 FLYING BOAT.

ONE of the latest models turned out by the Curtiss Co. is seen in the accompany illustrations. The H-S-1 is a medium-sized boat, coming between the 90 h.p. and the 400 h.p. H-12 models. It is not designed for speed, but is a relatively slow sailing craft of great steadiness, which can be driven for hours without fatiguing the pilot, and is thus eminently

not enclosed as on the H-12. Harold Kantner, the well-known American pilot, flew from Buffalo to Detroit and back with a passenger on this machine last July, and reported that the boat handled very well.

The following are the principal characteristics of the H-S-1: Span (top), 59 ft. 4 ins. (bottom) 45 ft. 8 ins.; chord,

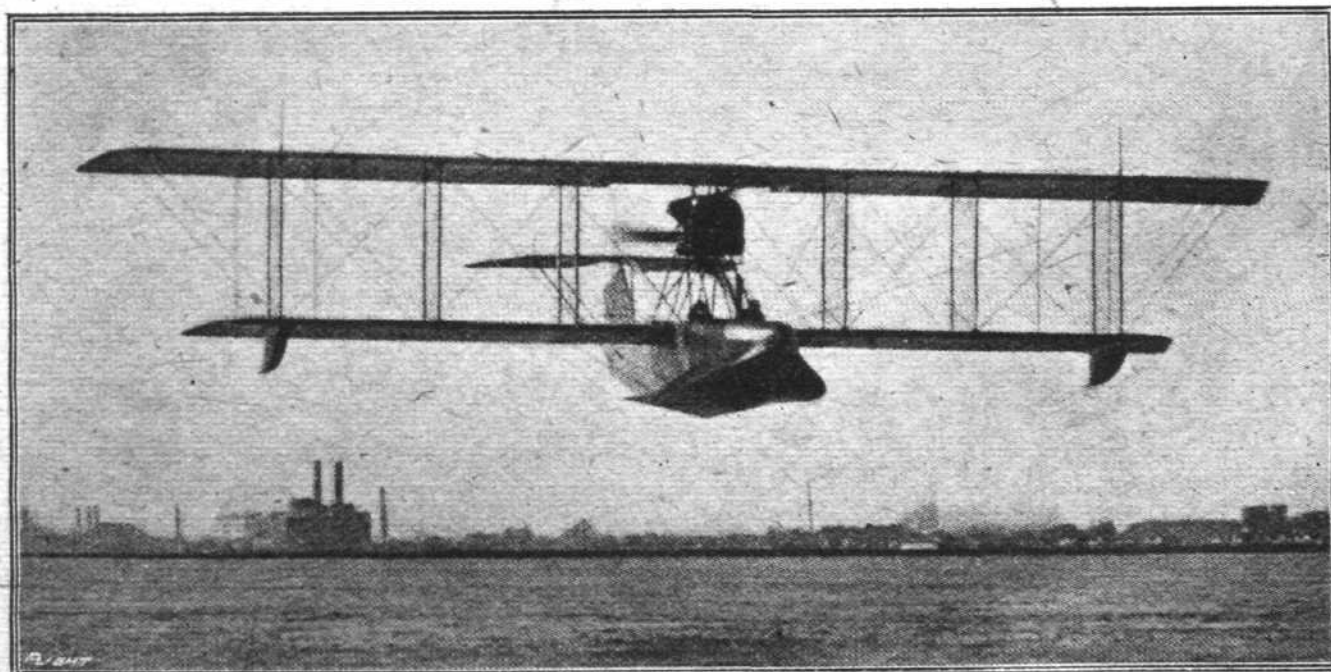


The new 200 h.p. Curtiss H-S-1 flying boat on the Niagara River, just before its flight from Buffalo to Detroit and back.

suitable for coast patrol work, for which it has been primarily designed. It is powered with a single Curtiss V-2 200 h.p. motor, and carries pilot, passenger and fuel for 6 hours' cruise.

The hull resembles that of the H-12, in that it is fitted with the planing fins at the sides, but the cockpit is

6 ft. 3 1/8 ins.; gap, 7 ft. 6 ins.; no stagger and no dihedral angle; angle of incidence, 4° (wing section, R.A.F. 6); overall length, 38 ft. 6 ins.; height, 14 ft. 3 ins.; total supporting surface, 626 sq. ft.; loading, 6.7 lbs. per square foot; weight (empty), 3,215 lbs.; useful load, 1,000 lbs.; speed range, 52-73 m.p.h.; climbing speed, 500 ft. in 13 mins.



The Curtiss H-S-1 flying boat in full flight.

AIRISMS FROM THE FOUR WINDS

"THE HONOUR MARKET" is a very good title for the subject of our leader a fortnight ago, when we entered our protest against the prostitution of "Honours" by their sale for party—that is putrid politics party—purposes. Under this heading a correspondent of the *Daily News* has recently quoted an interesting and suggestive extract from a petition in the reign of James I against the sale of honours. The petitioners point out that the precedence given to baronets is a grievous insult to the order of knighthood, and the King is warned of the "inconveniencies that will arise unto him" by reason of the new institution, one of these being that gentlemen "of great livelyhood and estimation will refrain his Majesties service in publique assemblies for the administration of justice and otherwise, because they scorne to geve place unto manie of the barronets whom they account their interiors." "There will alwaies," it is insisted, "be dislike, envy, and hartburning betweene the gentry of the kingdome and the barronets. . . . Nothing is more commendable than honor springing out of vertue and deserte; but to purchase honor with money (as barronets have done) is a temporall symony and dishonourable to the State."

It were well His Majesty King George, in these days when there is so much genuine scope for the real thing, should see to the grounds upon which he is asked to confer distinction upon recipients, unworthy and otherwise, lest these favours become more meaningless and carry with them the same contempt as attaches to the few millions of Iron Crosses which have been distributed by the All Highest. They might get down almost to the level of the orthodox £400 a year House of Commons party politicians' puppet.

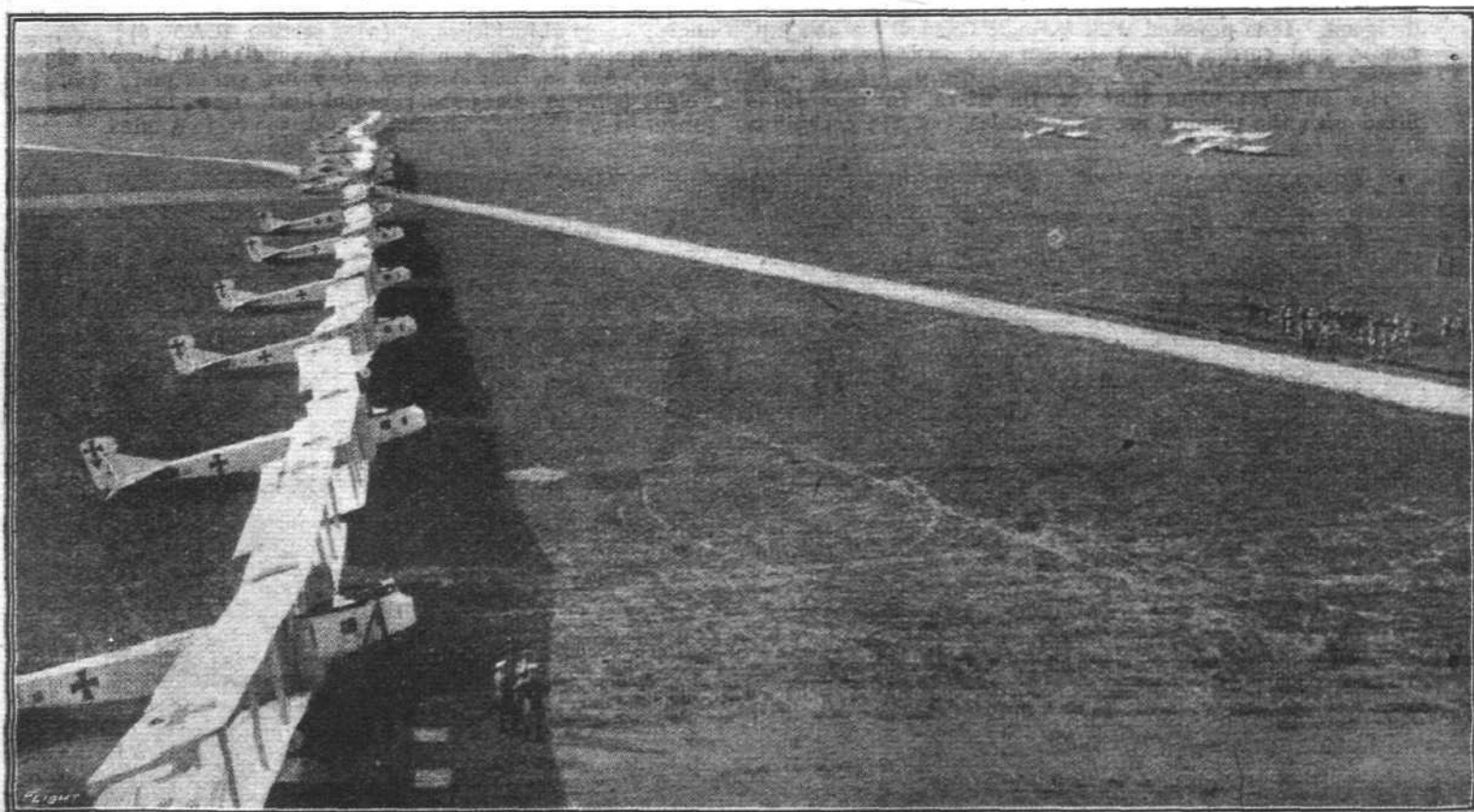
WHAT possible sense of proportion can a man have who insists upon extinguishing street lamps, whose lights are already practically extinguished under Dora's blessed care, after an air raid has materialised? Evidently there must be some virulent microbe which instils this view into some folk, as not only did one Larkins, a fishmonger, of Wanstead, under these conditions put out a couple of lamps near his house recently, but he insisted it was the only thing to be

done, offering to back his view by behaving in a similar manner in the future up to a cost of £500. On Saturday last the Stratford magistrate drew £2 on account of the £500.

STOCKHOLM and Abo, Finland, are the latest places it is proposed to join up by means of a seaplane service for passengers and mails. Capt. Dahlbeck, a Swedish pilot, is the enterprising promoter of this scheme. Under Capt. Dahlbeck's plans the service will be effected in a few hours. Under present everyday conditions the journey takes three days and three nights.

FROM Friedrichshafen comes the news that the recent Zeppelin airship raid on the British coast was a highly successful excursion, as it fulfilled all its objects "according to plan." It was but a voyage for observation purposes "to ascertain the strength and position of British naval forces," so the latest story runs. All the same, it seems under the circumstances passing strange they should have been in such an awful hurry to get back again, in view of their first announcements, via German wireless, of the successful dropping of "large quantities of explosives" on Hull, Lincoln and the Humber, at East Grimsby and on British naval vessels. The Zeppelin crews certainly proved that our coast guards had one eye open anyway.

COLONIALS, particularly Australians, Canadians and South Africans, seem to take to the air like fish to the water. Already many of our very best flyers have come from overseas, and bearing in mind the difference in life and the habits of most of our Colonial brethren, it is not so very surprising this should be so. A further effort to tap the great supply in this direction is in being under the direction of Major A. N. Miller, D.S.O., R.F.C., who for the second time is carrying through a recruiting mission in S. Africa. As a result of his last visit 400 recruits were obtained, and these young South Africans have shown such promise in aeronautics that a second visit to South Africa has been decided upon. Major Miller, who will be accompanied by Lieut. Bagshaw, R.F.C., of Port Elizabeth, will take with him two aeroplanes



A group of the double-engine 1 Gotha raiders, now familiar to these shores, drawn up at their starting-point.

with which he will tour South Africa in the exercise of his duties, giving exhibitions at various centres. Already over 500 South Africans are engaged in the R.F.C., and they have in many cases established records. Major Miller hopes to obtain at least 1,000 cadets as a result of his second visit.

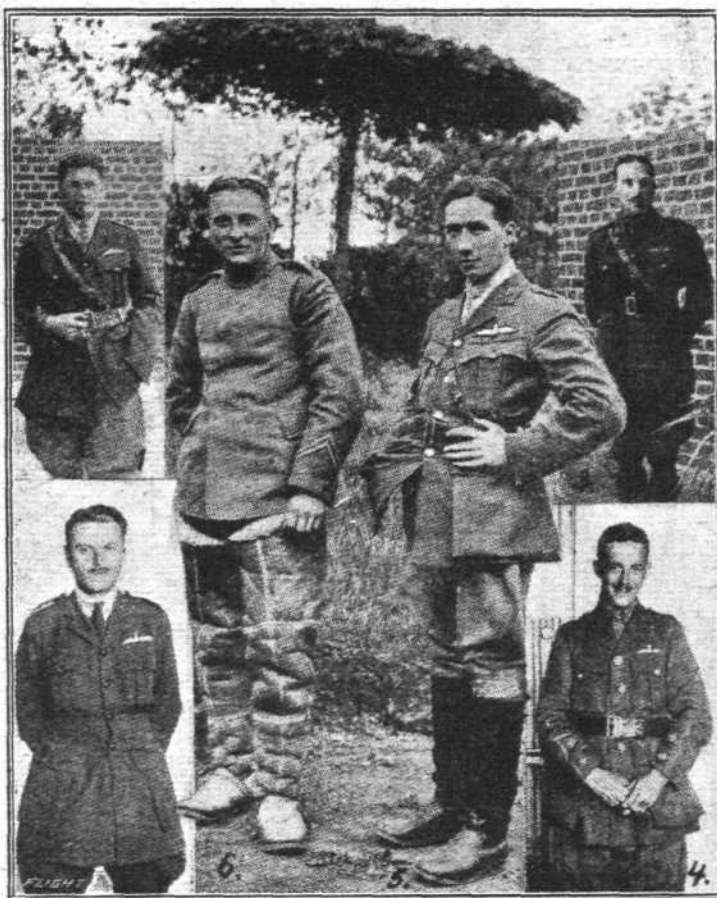
THERE is not much question as to the kind of work being carried out for the nation by the Dover Patrol. The members have earned the thanks of the entire Empire, by their untiring efforts against the crafty Hun. As Vice-Admiral Bacon put it the other day when presenting Distinguished Service Medals and Military Medals to over fifty of the members, including the R.N.A.S. at Dover, the Dover Patrol "has its teeth well into their flanks." And it should be noted the R.N.A.S. have not the least share in the strenuous work which the Patrol is called upon to perform against the Huns' wilyness. It was very cheering to listen to Vice-Admiral Bacon's views upon our present promising opportunities of strafing the arch enemy of the world's civilisation.

DEALING with the latest exposition of Hun "Kultur"—the deliberate bombing by German airmen of British and French hospitals—the *Daily Mail* sums the result of this atrocity up by pointing out that "such acts explain why practically the whole world is in arms against Germany to-day. Dr. Crippen was a mild and humane man compared with Mr. Ramsay MacDonald's 'German friends.'"

GUARDS OF HONOUR at weddings, high and low, are now quite the vogue. A novelty in this connection was noted at Weybridge last week, when postwomen were the guard of honour at the marriage of a postwoman with a member of the R.F.C.

"KULTUR" spreads to other sections of the animal world. A raid by flying ants was made upon the Metropolis on Wednesday evening, when many people were returning home from business and others enjoying strolls through the parks. The insects descended like clouds, and much inconvenience was caused by their bites. —(*Daily paper.*)

SOONER or later the "Freedom of the Air" is likely to be brought into prominence, and it may be as well to have at hand opinions upon this subject which may help towards a well-considered thought upon what promises to be a serious bone of contention, not only from national and international points of view, but also from the platform of the individual member of the public. A plea from Queen Elizabeth in favour of its freedom has just been drawn attention to by Mr. J. G. Swift MacNeill, who points out that our virgin queen claimed such freedom by coupling it with a definition of the Freedom of the Sea, as recorded by Camden and quoted with high approval by Dr. Hannis Taylor, the distinguished United States jurist and diplomatist. The following is the extract, which should be noted for any discussion as a good precedent: "When Mendoza, the envoy of Spain to the English Court, complained to Elizabeth of the intrusion of English vessels into the waters of the Indies, she admonished him that the use of the sea and air is common to all, neither can a title to the ocean belong to any people or private persons, forasmuch as neither nature nor public use and custom permitted any



SOME BRITISH FLYERS IN GERMAN HANDS.—1. 2nd Lieut. C. D. Grierson, shot down in an air fight on June 5th. 2. Lieut. A. S. Bouwin, shot down on June 3rd. 3. 2nd Lieut. Stewes, landed on June 4th. 4. Lieut. Rogerson, shot down on June 14th. 5. Lieut. Gront. 6. Sergt. Tyrell, shot down on May 10th.

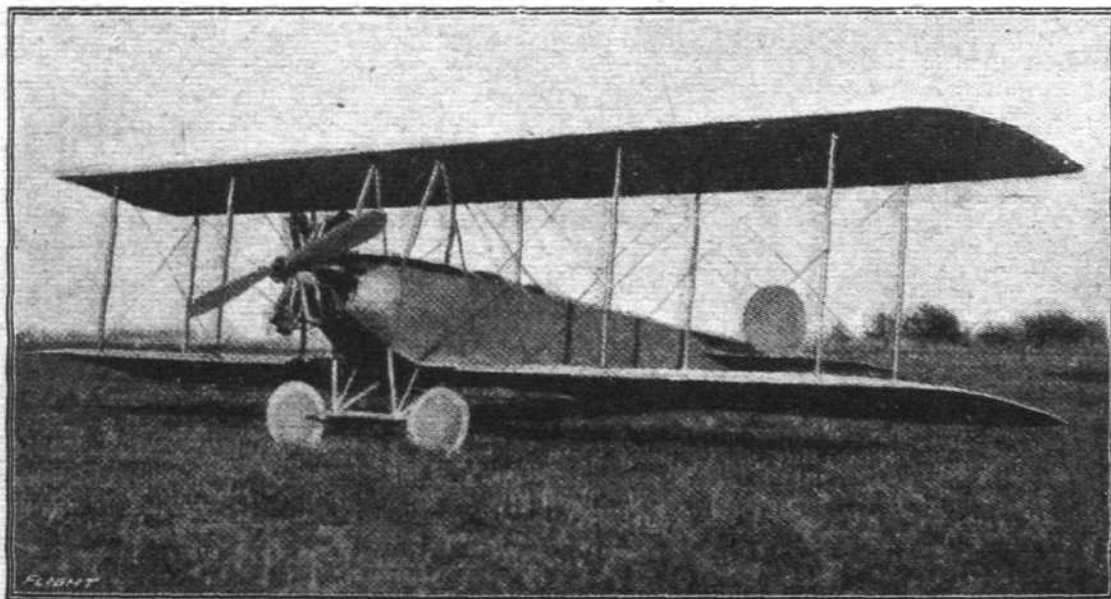
possession thereof." (Camden's "History of Elizabeth," year 1580; Hannis Taylor's "Treatise on Public International Law," p. 291.)

TEN YEARS AGO.

Excerpts from the "Auto." ("FLIGHT's" precursor and sister Journal) of August, 1907. "FLIGHT" was founded in 1908.

BLÉRIOT AEROPLANE FLIGHTS.

On Friday, July 27, M. Blériot took his machine out once more at Issy-les-Moulineaux, and was successful in attaining several satisfactory flights. One extended for about 125 metres, and another for nearly 150 metres, the latter having been measured by M. Archdeacon, President of



Courtesy "Aerial Age."

The Grinnell tractor biplane, an American machine somewhat reminiscent of the Flanders biplane in Brooklands' days of old.

the Commission d'Aviation of the Aero Club. Considered merely as flights, these prolonged "jumps" are, perhaps, scarcely of any very great importance, but the feature which characterised them, and which cannot fail to give encouragement to the aeronaut to continue his attempts, was the manner in which the machine alighted on the ground after each trial. This is, after all, one of the most important factors to be attained, since it is very little use being able to keep aloft in the air unless it can be followed by a perfectly safe landing.

Continuing the trials, M. Blériot again made a very successful attempt on Tuesday of last week, when he accomplished two consecutive jumps of 122 metres and 143 metres without coming to rest. It was in a way a somewhat curious feat, since the aeroplane actually landed on the ground between the two jumps, but maintained its equilibrium, and recommenced flight after running a distance of about 12 metres. At the end of the second jump the aeroplane once more landed on the ground, but this time did some damage to itself, for a propeller blade and a shaft were broken.

MILITARY AIRSHIP DEVELOPMENTS.

Those who, like ourselves, have for many years anticipated the practical utility of airships for purposes of war within the near future, but have at the same time realised the limitations which must for some time restrict their field of action, must welcome the signs of the times which serve as an infallible indication that the subject of aeronautics is at last being

taken seriously by the majority of people in all civilised countries. . . . In the House of Commons recently Major Anstruther-Gray asked whether, in view of the progress made by foreign powers in the problems of aerial flight, the Secretary for War would consider the desirability of increasing the grant for research on the subject, and Mr. Haldane's written answer to the question was as follows: "The importance of this subject is recognised and experiments are in progress. It is not considered necessary or desirable to increase the grant of money available this year for this subject. My advisers and I are fully aware of the nature of work that is being done elsewhere."

Similarly, too, the general question of airships in war was brought up before the Conference at The Hague a fortnight ago, two distinct proposals for restricting their use in time of war being made by Belgium and by Italy. The Belgian proposal was to renew the declaration adopted at the Conference of 1899, prohibiting for a period of five years the dropping of projectiles and explosives from balloons or other new similar means. The Italian proposal was that any balloon employed in military operations should have a military crew, and that the dropping of projectiles on non-defended towns and villages should be prohibited. Neither proposal was carried unanimously, but the voting on the latter was decidedly favourable to its adoption on some future occasion. The main point, however, is that debates such as these indicate the coming of a new era—the "flying" era.

FATAL ACCIDENTS.

LIEUT. A. S. HUNT and Sergt. C. Finley, both of the R.F.C., were killed as the result of a collision in the air between two aeroplanes in North Wiltshire on August 20th. The propeller of the other machine was broken, but the pilot managed to land in safety.

Flight-Sergt. Rodgman was killed at Wolvercote, near Oxford, on August 20th. He was flying at a height of about 100 ft., when smoke was observed issuing from the aeroplane, and the machine fell to the ground in flames. Rodgman had flown from Northolt, and was on his return journey when the accident happened.

At 6.40 a.m., on August 22nd, as Capt. Neale and Lieut. Hollamby were flying, their machine fell into a field at Hounslow and both officers were killed. At the inquest it was stated that Capt. Neale was instructing Lieut. Hollamby. It was suggested that possibly Lieut. Hollamby got the machine in such a position that the instructor could not pull it out. A verdict of "Accidental Death" was returned.

At 7.5 a.m. another machine, in which Lieut. Keyser was flying, from some unexplained cause made a nose-dive into a field at Heston. The officer was so severely injured that he was removed to hospital, where he died later in the day. At the inquest it was stated that while coming down he turned sharply to avoid a tall tree. The machine nose-dived and crashed to the ground. A verdict of "Accidental Death" was returned.

Lieut. W. T. Harries, R.F.C., was killed by the fall of his machine in a meadow at Angmering, West Sussex, on August 21st.

On August 22nd a biplane in the charge of Lieut. Lapera and 2nd Air-Mech. Sloane, flying from London to the Kentish coast, alighted near Westerham, and upon leaving rose to about 600 ft. and then suddenly nose-dived into a meadow, where the machine burst into flames. Both occupants were killed.

A verdict of "Death by Misadventure" was returned at an inquest at Ilford on the body of Lieut. G. R. Craig, M.C., East Lanc. Regt. and R.F.C. He went up from an Essex aerodrome on August 19th, and, after engaging in fighting practice with his Flight-Comdr., came down 1,000 ft. in a spin.

He recovered himself, but immediately began spinning in the opposite direction, and crashed to earth. Capt. McKay said that Lieut. Craig was an experienced airman, and he could only assume that he became dizzy and fainted. The doctor who made the post-mortem examination said he had no doubt that Craig fainted in mid-air and was killed instantly his machine crashed to earth.

At the inquest at Dartford on August 25th on Lieut. Allan G. Dow, who on August 17th while flying collided with another machine and fell into the River Thames and was drowned. From a statement made by the pilot of the other machine, who is in hospital, it appears that he was doing a spiral from 2,500 ft. up, and did not see the other machine till he was 5 yards away from him. He tried to escape collision but failed, and Lieut. Dow's machine nose-dived into the river and was wrecked. A verdict of "Death from Misadventure" was returned.

On Saturday Mr. Harold Barnwell, the well-known pilot and designer of Messrs. Vickers, Ltd., was killed at a Kent aerodrome. He had not been in very good health lately, and had only just returned after a fortnight's holiday, when he accepted an invitation to try a machine from which a military officer had just alighted. He carried out several evolutions, when the machine crashed to the ground and Barnwell was immediately killed.

At the inquest it was stated that he had been up three times previously on the day of his death at another aerodrome, and the machine which fell had been flown just before the accident. Mr. Barnwell looped the loop several times, and evidently tried to "roll" the machine. He came down to the ground level to take a ground spring and went up to about 1,200 feet. He then took a spin of three turns and came out of it. He stalled the machine and started spinning again. From the second spin the machine never recovered, and it crashed to the ground at an estimated speed of 150 to 200 miles an hour, being completely smashed. Mr. Barnwell was found among the wreckage dead, and his safety belt was broken. It is thought Mr. Barnwell must have fainted in the air, as he did nothing to save himself. Capt. Harold Baker, R.F.C., who had previously flown the machine, said he had spun both ways and found it answer perfectly.

A verdict of "Death from Misadventure" was returned.

air fight, his fall being witnessed by observers from a kite balloon. Pilot Chadwick belonged to the Lafayette squadron, was formerly a Harvard graduate, and came of a wealthy family of Lowell, Mass.

Remembering American Pioneers.

FOLLOWING the precedent set in naming the first Government aerodrome after Langley, the U.S. authorities have named the ground at Dayton the Wilbur Wright flying field, while that at Mount Clemens, Mich., is to be known as Selfridge field, thus perpetuating the name of Lieut. Selfridge, who on September 17th, 1908, was fatally injured in an accident while flying with Mr. Orville Wright.

A Memorial to Lieutenant Warneford.

IN the Warneford Chapel, of Highworth Church, Wilts, there was unveiled and dedicated on August 21st a memorial tablet, subscribed for by members of the Warneford family throughout the world, as a tribute to the late Sub-Lieut. R. A. J. Warneford, V.C., R.N. The tablet was unveiled by Mrs. Maude Nightingale and dedicated by the Rev. H. L. Warneford.

Another American Pilot Killed.

THE eighth American pilot to be killed in the war is Corpl.-Pilot Oliver D. Chadwick, who has been killed in an



PERSONALS

Casualties.

Flight-Lieutenant CECIL R. BLAGROVE, R.N., was reported missing on February 7th, 1917, and is now reported killed on that date. He was the only son of Mr. and Mrs. Stanley Blagrove, of 170, Kingston Road, Wimbledon, and was in his twenty-first year. At the outbreak of war he was at King's College School. He had been in France about a year, and lost his life while on a bombing raid on Bruges harbour.

Second Lieutenant HAROLD CHARLES BRUFTON, Rifle Brigade and R.F.C., killed in a fight in the air on July 8th, was the third son of Mr. Harry D. Brufton, of Croftdown, Wanstead. After serving a short time in France he went to Egypt on January 3rd, 1916 (his twenty-first birthday), and joined the R.F.C. in November following. He took part in numerous raids with his squadron and had several fights with enemy machines, and only a month or so before his death was promoted to be a fighting scout.

Second Lieutenant CHRISTOPHER LECKONBY PHIPPS, R.G.A., attd. R.F.C., killed on August 14th, aged 20, was the third son of the late Mr. and Mrs. Gerald E. Phipps, of St. Albans. He was educated at Doon House, Westgate-on-Sea, and at Uppingham. He obtained his commission in the Special Reserve in August, 1915, and went to the Front the following June. Last May he was transferred to the Kite Balloon Section, R.F.C., and met his death in a parachute descent.

Second Lieutenant STUART McMURRAY, London Regiment, attached R.F.C., killed, with his pilot, on landing in the dark on August 8th after a successful bombing raid, during which his plane was riddled with bullets, was the second son of Mr. Samuel McMurray, representative of Messrs. John Scott, Son and Company, 8, Cannon Street, City, a prominent member of the Cumberland and Westmorland Association of London. Educated at Alleyne's School, Dulwich, Lieutenant McMurray served his apprenticeship to the drapery trade with Messrs. Harper Bros., of Balham, and afterwards joined the staff of Messrs. Hitchcock, Williams and Co., St. Paul's Churchyard. He was a keen member of the house sports club, and was in the water polo team which won the City Challenge Cup. On the outbreak of war he enlisted in the Seaforth Highlanders, was severely wounded at Festubert, and shortly after his return to the front was selected for a commission.

Lieutenant PATRICK JOHN GORDON POWELL, R.F.C., was the third son of Mr. and Mrs. Powell, of 18, Tudor Road, Upper Norwood, and was aged 20. He was educated at Cairnburn and Dulwich College, and joined the Public Schools Battalion in September, 1914. Later, however, he went to Sandhurst, and received his commission in March, 1915. He served at the Front from March, 1916, coming home in July to train for the R.F.C. Having received his pilot's certificate in October, 1916, he returned to the Front. He was reported missing on April 2nd, and news has now come that both he and his observer were killed while flying on that date.

Captain LEOPOLD FREDERICK REINCKE, Duke of Wellington's (West Riding) Regiment, attached R.F.C., whose death is announced, was a younger son of Mr. and Mrs. L. Reincke, of 5, Champion Park, Denmark Hill, S.E. He was born in September, 1887, and educated at the Dulwich College Preparatory School and at Dulwich College. In Egypt when war broke out, he came home and obtained a commission in the Duke of Wellington's Regiment. After completing his early training he was for many months in this country training troops, but in October, 1916, he went to the Front, having in the meantime been promoted to the rank of Captain. He took part in some of the later fighting of the Somme offensive, and during this summer he led his company in a great attack. Transferred to the R.F.C., he returned home, but went to the Front again on August 8th, and was killed on the 17th while out on an offensive patrol "far over the enemy lines."

Captain ARTHUR NORBURY SOLLY, Manchester Regiment and R.F.C., killed while flying at the Front on August 11th, was the elder son of Major Ernest Solly, R.A.M.C. (T.), F.R.C.S., of Harrogate. He was educated at Mostyn House, Parkgate, and at Rugby, where he was a scholar and exhibitor, a member of the O.T.C., and for two years in the

running VIII, and at Caius College, Cambridge, where he obtained an exhibition and had been in residence for a year before war was declared, intending to enter the medical profession. In September, 1914, he returned from Switzerland, joined the Public School Brigade, and was soon promoted to Sergeant. He received a commission in the Manchester Regiment in October, 1914, and a year later was transferred to the R.F.C. He was wounded on July 1st, 1916, and in the autumn of that year qualified as pilot. Since then he had seen much fighting, and was "Lieutenant C." referred to by the Special Correspondent of the *Times* in his despatch, published on May 10th, describing how five British aeroplanes fought 27 Germans and beat them, "sending eight to earth crashing, crippled or in flames." In this fight "Lieutenant C." saw his crippled comrade slipping downwards and saw the German diving after. Quick as a flash he followed, and before the German could do his work the British aeroplane was almost touching the tail of his machine, and in another second the German turned clean over in the air and then crashed nose foremost down into the abyss. Captain Solly had been promoted Flight-Commander and Temporary Captain just a month before his death.

Second Lieutenant FRANCIS HERBERT THORNDIKE, R.F.C., was the son of Canon and Mrs. Thorndike, 75, St. George's Square, S.W. He was educated at the King's School, Rochester, and very early showed strong dramatic and musical ability, appearing as a boy in a number of London plays. In the first month of the war he joined the Westminster Dragoons, and served as a trooper in the Suez fighting of 1914, and later in Gallipoli at Suvla Bay. Invalided home, he took a commission in the Yeomanry, and last spring he transferred to the R.F.C., in which he made very rapid progress, being sent to the Front as a Pilot about five weeks ago.

Flight-Lieutenant CHARLES VERNON ARNOLD, R.N., accidentally killed on August 16th, was born in 1894, and educated at Dulwich College and the South Kensington College of Engineering (City and Guilds), where he took his diploma and the B.Sc. degree (London) with first-class honours. At school he distinguished himself as a cricketer, and made in a first-class match the record of 173, and with his partner the record for the first wicket of 341. On the outbreak of the war he volunteered as a private in the H.A.C., and transferred six months later to the R.N.A.S. He was on board the "Empress" when it was successful in saving over 400 lives from the torpedoed steamer "Hesperian." He afterwards served on the Eastern Mediterranean Station, and last spring was made commanding officer of an important aerodrome abroad. Later he was appointed instructor at an aerodrome in the home counties. The accident which caused his death and that of his pupil, Probationary Flight-Lieutenant Forman, was due to engine trouble at a low altitude, resulting in sideslip. Last spring both the British and French admirals signalled him from their ships, "Well done; your work was excellent! Our congratulations." He was the only son of Captain Ernest C. Arnold, R.A.M.C. (late of Forest Hill) and Mrs. Arnold (nee Wedel), of Christiania.

Mr. RICHARD HAROLD BARNWELL, who was killed in an accident at Dartford on Saturday, was one of the two famous brothers—the other is now Captain F. S. Barnwell, R.F.C.—who, besides being two of the most successful designers of the day, were among the earliest of the pioneers in this country. In 1908, the brothers built at their motor works in Stirlingshire a monoplane fitted with a 40 h.p. twin-cylinder engine. This did not come up to expectations and they set to work on a biplane—fitted with two propellers—which was completed and put through its first trials at Causewayhead, near Stirling, at the end of July, 1909. Harold Barnwell acted as the pilot and succeeded in making hops of 80 to 100 yards. At the end of almost every one of the flights, the machine was badly damaged in landing, but the brothers at once set to work and rebuilt it. Several times Harold Barnwell sustained severe cuts and bruises, but fortunately always escaped serious injuries, and he modestly ascribed the worst smashes to errors of judgment in steering. Their next machine was a monoplane, and on January 30th, 1911, Harold Barnwell won the prize of £50 offered by the Scottish Aeronautical

Society with a fine flight, which unfortunately ended in a crash, through a sudden dive to avoid some telegraph wires. After some months of further experimenting Harold Barnwell came south and joined the Bristol school, qualifying for his Royal Aero Club certificate at Brooklands on a Bristol biplane on September 3rd, 1912. Subsequently he joined up with Messrs. Vicker's, Ltd., and designed several machines of a fast turn of speed, notably the Vickers "bullet," which he piloted with a master hand.

Of a quiet and retiring nature, Harold Barnwell was not so much in the public eye perhaps as many others who have been less successful, but although at the present time it is not possible to give details of his achievements as a designer, it may be said that some of the machines evolved by him have rendered valuable service in the war. Those who were privileged to know Harold Barnwell as a friend will sorely miss his charming personality.

Lieutenant EWART CUDEMORE BROWN, Canadian Infantry, attached R.F.C., who was killed while flying in England, aged 24, was the eldest son of Mr. and Mrs. V. O. Brown of St. George's, Bermuda, and nephew of Mr. and Mrs. C. H. Cudemore, of Loughton, Essex. He was born in St. George's, Bermuda, and after leaving school went to the British Bank of Montreal, where he was when war was declared. He enlisted in the company formed by the McGill Institute, Montreal, of which he was a member, and after training in England he went to the Front early in 1915. He was invalided home, and afterwards served in the Accountants' Department of the Canadian Pay Office. He again volunteered for the Front, joining the cadets and gaining his Lieutenantcy. Later he became attached to the R.F.C., and it was during his first solo flight that he was accidentally killed.

Flight Sub-Lieutenant CECIL BARNABY COOK, R.N., who was accidentally killed on August 20th, aged 18, was the younger son of Mr. and Mrs. Herbert Cook, of Bromley, Kent. He was educated at Dulwich College, and obtained his commission in March and his certificate in July. He was an enthusiastic flyer, and his commanding officer stated that he was a most capable and promising pilot.

Captain HENRY ERIC DIXON, Middlesex Regiment, attached R.F.C., who was accidentally killed while flying, was the eldest son of the late Albert Edward Dixon, solicitor, Cardiff, and of Mrs. H. B. Dixon, of Downton House, Stonehouse, Gloucestershire. After being educated at Waynfleet and Bradfield College, he was at Leeds University, then at the Wolseley Works, Birmingham, and later with the Cleveland Bridge Engineering Co. On the outbreak of hostilities he joined the Public Schools Corps, and was given a commission in the Middlesex Regiment, being later transferred to the R.F.C., in which he obtained his wings with distinction, and at the time of his death was Acting Flight-Commander. He was married only nine months ago to Miss Muriel Agnes Seymour Metford, younger daughter of Lieutenant-Colonel F. K. Seymour Metford, R.F.A., and she survives him. Captain Dixon had three brothers in the Forces, one of them Lieutenant Cyril Maxfield Dixon, York and Lancaster Regiment, having been killed in August, 1915.

Lieutenant GILBERT THOMAS RICHARDSON PETTIGREW, Hereford Regiment and R.F.C., accidentally killed on August 12th while flying in England, was the younger son of the late Mr. William Pettigrew, of Warwick, and of Mrs. Pettigrew, of Hereford. He was born in 1892, was educated at Warwick School, and became a journalist, afterwards leaving England for Canada to join the staff of the *Winnipeg Telegram*. He also served on the staff of the *Montreal Daily Mail*. Subsequently he was appointed private secretary to the Minister of Public Works for Manitoba. He returned to England, enlisted in the Shropshire Light Infantry, and went to the Front. Having been seriously wounded at Hooge, he came home, and at the end of 1915 was offered a commission in the Herefordshire Regiment. Shortly afterwards he transferred to the R.F.C., and again went to the Front. He returned home at the end of May last after being found permanently unfit for war flying, and acted as an instructor in a training squadron.

Lieutenant ARTHUR WILLIAM ROWLANDS, R.F.C., was killed while landing in his machine in Lincolnshire just after midnight on August 15th, aged 22. He was educated at the Liverpool College, Shaw Street, and graduated at the Liver-

pool University with the degree of LL.B., first-class honours, a month before the outbreak of war. On September 12th, 1914, he was articled to Messrs. Bateson, Warr and Wims-hurst, solicitors, Liverpool, and joined the Liverpool Scottish the following month. After serving the first winter in the trenches with his regiment he was granted a commission in the A.S.C. while in France. He then transferred to the R.F.C., served as an observer for six months, and came over to England, taking his wings in June. He was the only son of Mr. and Mrs. J. W. Rowlands, of 51, Newsham Drive, Liverpool.

Second Lieutenant BERTRAM JOSEPH VENN, killed in an accident near Birmingham on July 11th, in landing at the conclusion of a fourth solo flight, and last flight for qualifying as pilot, was the youngest son of Mr. and Mrs. J. Venn, of Clifton, Bristol. He was educated at Merchant Venturers' College, Bristol, and was a member of the Examining Staff of His Majesty's Patent Office. At the outbreak of war he was in the London Wireless Section of Royal Engineers, and went to France in October, 1914, receiving a commission in same, June, 1916. He transferred to the R.F.C. as an observer in September, 1916, and whilst so serving was once brought down within British lines.

First Class Air-Mechanic G. C. CASTELL, R.F.C., was killed in a railway accident when returning after completing a machine-gun course in preparation for a commission as a flying officer. Mr. Castell, who was 24 years old, was a trained engineer, who had served his time in the shops, and was engaged as a draughtsman at the outbreak of war. Within the first few weeks he joined the London Regiment as a private, going to the Front at the beginning of 1915, and seeing hard fighting at Givenchy, Loos and elsewhere. After about 18 months of this service he was transferred to the R.F.C. for the repair and maintenance of aeroplanes, and had been recommended for the commission for which he was preparing at the time of his death. Mr. Castell, who was a vigorous Rugby footballer and on service became an excellent shot, was the only child of Mr. G. H. Castell, for many years engaged in the service of the Surrey Commercial Docks.

Missing.

Sir Bryan Leighton, Bart., and Lady Leighton, of Loton Park, Shrewsbury, have received news that their only surviving son, Lieutenant RICHARD TIHEL LEIGHTON, Yeomanry, attached to the R.F.C., is missing, his machine having been shot down in an air fight over the German lines on August 17th. Lieutenant Leighton was born in 1894, and before joining the R.F.C., had held a Lieutenant's commission in the Yeomanry since October, 1914. Major J. B. T. Leighton, Scots Guards and Flight-Commander in the R.F.C., elder son of Sir Bryan and Lady Leighton, was killed while flying in France on May 7th.

Married and to be Married.

The wedding arranged between Squadron Commander R. HILTON JONES, R.N., and EILEEN, only daughter of Colonel and Mrs. ASTLEY ROBERTS, will take place at St. Saviour's Church, Eastbourne, on Wednesday, September 5th, at 2.30.

Items.

MAJOR-GEN. SIR J. E. CAPPER, K.C.B., who has been appointed to be Director-General of the Tank Corps, was, from 1906 till 1910, commandant of the Balloon School, and afterwards of the School of Military Engineering. He received his commission in the Royal Engineers in 1880, and from 1883 till 1899 was employed on military and public works in India and Burma. He served in the Tirah Campaign in 1898, and for his work during the South African War was mentioned in despatches twice, and given the brevet of Lieut.-Col. He has been mentioned in despatches twice during the present war, and received the K.C.B. among the Birthday Honours in June. In the earlier days of the Royal Aero Club Sir John was a valuable member of the Committee, at a time when every atom of official encouragement it was possible to get, acted as a ray of hope for the early pioneers and supporters of what now promises to develop into one of the world's greatest industries. Major-Gen. Capper is essentially a man of foresight and action.

The estate of Mr. SYDNEY HUBERT CHAPLIN, of Shielding, Leatherhead, Surrey, insurance broker and agent, who was killed in an air raid on June 13th, has been sworn as of the gross value of £9,677, of which £8,514 is net personality.

An Aircraft Works for Cork.

At a recent meeting of the Executive Committee of the Cork Industrial Association, a project to establish a local

aircraft works was discussed. It was stated that Irish ash when seasoned was eminently suitable for aeroplane work. It was decided to take the necessary steps to interest local capitalists in the project.



The British Air Service

"PER ARDUA AD ASTRA"



UNDER this heading are published each week the official announcements of appointments and promotions affecting the Royal Naval Air Service and the Royal Flying Corps (Military Wing) and Central Flying School. These notices are not duplicated. By way of instance, when an appointment to the Royal Naval Air Service is announced by the Admiralty it is published forthwith, but subsequently, when it appears in the LONDON GAZETTE, it is not repeated in this column.

Royal Naval Air Service.

Admiralty, August 21st.

Prob. Flight Sub-Lieut. G. S. Greenland confirmed in rank of Flight Sub-Lieut., seniority May 19th, and promoted to Flight-Lieut.; July 15th.

The following have been confirmed in rank of Flight Sub-Lieut., seniority as stated: M. McMaster and N. Grabowsky; April 4th. E. L. D. Bartley, April 19th. G. L. Lewis; May 4th. H. Gartside-Tippinge; June 4th. S. B. Harris; June 19th.

2nd Writer H. A. C. Atkinson entered as Prob. Flight officer (Temp.), seniority Aug. 23rd.

P. O. J. F. Grady (1st Cl.) and S. T. Clemens promoted to Warrant Officers (2nd Gr.), seniority June 23rd.

Admiralty, August 22nd.

Flight-Lieut. (Temp.) R. R. Winder promoted to Acting Flight-Comdr. (Temp.), seniority July 27th.

Flight Sub-Lieut. (Temp.) E. V. Reid, D.S.C., to be Acting Flight-Lieut. (Temp.), seniority July 27th.

Prob. Flight Officers (Temp.) L. A. Christian and J. W. Adams both to be Prob. Ob. Officers.

Lieut. (R.N.V.R.) N. C. Blanch granted rank of Flight-Comdr. (Temp.), seniority June 30th.

Sub-Lieut. (Temp., R.N.V.R.) E. A. Jenkins to be Prob. Flight Officer, seniority Aug. 26th.

The following have been entered as Prob. Flight Officers (Temp.), seniority Aug. 26th: F. C. Dodd, A. J. Fricker, G. F. Dupuy, J. F. Hughes and F. Y. Banton.

Admiralty, August 23rd.

E. C. F. O'Connor-Fenton entered as Prob. Flight Officer (Temp.), seniority Aug. 12th.

J. Logie granted a temp. commission as Sub-Lieut. (R.N.V.R.), seniority Aug. 22nd.

Admiralty, August 26th.

A. P. Stock entered as Prob. Flight Officer (Temp.), seniority Aug. 12th.

W. R. Anstey entered as Prob. Ob. Officer (Temp.), seniority Aug. 25th.

R. J. Dashwood (Mid., Temp., R.N.R.) granted temp. commission as Ob. Sub-Lieut., seniority July 5th.

Temp. commissions as Sub-Lieut. (R.N.V.R.) have been granted to C. R. Skinner and J. B. Holden, seniority respectively Aug. 24th and 27th.

Admiralty, August 27th.

Prob. Flight Sub-Lieuts. (Acting Lieuts., R.N.) G. R. I. Snow and J. W. Havers both promoted to Flight-Lieuts., seniority respectively May 4th and June 19th.

Flight-Lieut. (Temp.) W. M. Alexander to be Acting Flight-Comdr. (Temp.), seniority Aug. 3rd.

Flight Sub-Lieut. (Temp.) D. F. FitzGibbon to be Acting Flight-Lieut. (Temp.), seniority Aug. 3rd.

Lieuts. (Temp., R.N.V.R.) J. C. Savage and D. A. B. Moble both to be Acting Lieut.-Comdrs., R.N.V.R. (Temp.), seniority respectively Aug. 14th and 24th.

Third Writer B. J. E. Belcher entered as Prob. Ob. Officer (Temp.), seniority Aug. 24th.

P. O. Mech. H. A. Evans granted a temp. commission as Sub-Lieut. (R.N.V.R.), seniority Aug. 24th.

The following have been entered as Prob. Flight Officers (Temp.), seniority as stated: K. Y. Sinclair; Aug. 15th. H. C. Armit, S. H. Bazeley, A. H. Burnett, S. Castle-Smith, E. A. Comeau, C. G. Constanduros, L. E. F. Dale, D. J. de Villiers, H. Fawdry, R. F. Gill, H. R. Gillett, D. M. Goldsmith, E. G. Goy, K. W. J. Hall, F. A. James, K. W. Jones, G. O. Lightbourn, F. G. S. Musson, E. A. J. Pope, E. F. Redman, R. Ritterdon, S. W. Rochford, V. F. A. Rolandi, G. Smith, H. J. Stephenson, E. G. Sullivan, G. P. Walsh, A. D. Reid, H. L. Weaving and C. E. Wildey; Aug. 19th. C. C. Betts, M. V. Stewart, J. W. Turton-Jones and A. W. Toms; Sept. 8th.

Temp. commissions (R.N.V.R.) have been granted to the following, sent as stated: Lieuts.: M. V. Conant; Aug. 25th. W. Guidott; Sept. 2nd. Sub-Lieuts.: The Rev. H. H. Sharp, W. Stewart and J. McLaren; Aug. 25th.

Royal Flying Corps (Military Wing).

London Gazette Supplement, August 21st.

The following appointments are made:—

Flight-Commanders.—From Flying Officers, and to be Temp. Capt. whilst so employed: Lieut. C. W. Carleton, S.R.; Aug. 4th. Lieut. H. D. Williams, S.R.; Aug. 7th.

Flying Officers.—2nd Lieut. W. M. Yool, Ind. Army Res. of Officers; May 28th (substituted for the notification in the Gazette of July 27th). Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank: W. D. Matheson, M.C.; Nov. 12th, 1916. H. R. Griffin; June 7th. H. R. Gates, D. C. Townley, E. Reddaway; July 26th. R. R. King, J. R. Hatchett, F. A. Pumphrey; July 27th. Temp. 2nd Lieut. J. W. Aldred, M.C., Gen. List, from a Flying Officer (Ob.), seniority Aug. 30th, 1916; July 30th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank: K. S. Kirkaldy, F. A. Ayrton, C. G. D. Gray, I. R. Mees; July 31st. R. M. Bankes-Jones, E. D. Gibson, A. E. Leggo and A. C. F. Luke; Aug. 1st.

Flying Officers (Observers).—2nd Lieut. S. D. Chard, North'd. Fus., S.R., seniority April 14th. 2nd Lieut. C. Donald, Gord. Highrs. (T.F.), seniority April 15th, and to be sec'd.; Temp. 2nd Lieut. D. Hamilton, A.S.C., seniority April 17th, and to be transd. to R.F.C., Gen. List; 2nd Lieut. P. Robertson, Camn. Highrs., S.R., seniority May 6th, and to be sec'd.; Aug. 2nd.

Equipment Officer, 3rd Class.—Temp. 2nd Lieut. (on prob.) F. E. Glass, Gen. List, and to be confirmed in his rank; May 1st.

General List.—Lieut. G. L. Stedman, from N. Zealand Mil. Forces, to be Temp. Lieut.; June 20th. Temp. 2nd Lieut. R. P. Romer, Gen. List, to be Temp. Lieut. whilst serving with R.F.C.; Aug. 19th.

Schools of Aerial Gunnery.

Chief Instructor (graded as a Squadron Commander).—Temp. Capt. A. R. Cooper, Gen. List, from a Chief Instr. (graded as a Flight-Comdr.), and to be Temp. Major whilst so employed; July 19th.

Supplementary to Regular Corps.—The date of the appointment of 2nd Lieut. M. V. Barton is July 3rd, 1916, and not as in the Gazette of Aug. 3rd, 1916. To the notification in the Gazette of Sept. 9th, 1916, regarding 2nd Lieut. W. S. C. Stephens, add "seniority Oct. 12th, 1914." The following 2nd Lieuts. (on prob.) are confirmed in their rank: A. A. Kennedy, H. Seymour, F. S.

Reed, L. B. Hyde-Pearson, D. S. Thompson, W. G. Stuart, S. L. J. Bramley, C. E. Howell, J. E. L. Wrench and F. C. Andrews.

General List.—Temp. 2nd Lieut. J. A. French relinquishes his commission on account of ill health, and is granted the hon. rank of 2nd Lieut.; Aug. 22nd. Temp. 2nd Lieut. L. L. Millar resigns his commission owing to physical unsuitability for retention in the Corps; Aug. 22nd. The following Temp. 2nd Lieuts. resign their commissions with a view to joining an Officer Cadet Bn.: F. H. Brown, J. Bryson, G. M. Ling, C. L. Modlen, W. A. Simmons, H. P. Trussell; Aug. 22nd. Temp. 2nd Lieut. R. Forshaw resigns his commission with a view to joining an O.T.C.; Aug. 22nd. The following Temp. 2nd Lieuts. (on prob.) are confirmed in their rank: W. E. de B. Diamond, H. Huute, P. Kent and F. A. Watson.

London Gazette Supplement, August 22nd.

General Staff Officer, 3rd Grade.—Capt. S. O. Everitt, Res. of Officers, from a Staff Officer, 3rd Cl., R.F.C., vice Capt. Sir N. R. A. D. Leslie, Bt., Ind. Cav.; July 23rd.

Flight-Commanders.—From Flying Officers, and to be Temp. Capt. whilst so employed: 2nd Lieut. (Temp. Lieut.) C. D. Fellowes, Yeo. (T.F.); June 6th.

Temp. Lieut. G. M. Clarke, Leins. R.; Lieut. J. E. Evans, R.W. Fus.; Lieut. W. M. Pethybridge, S.R.; 2nd Lieut. C. J. Campbell, S.R.; 2nd Lieut. G. F. Hughes, S.R.; July 29th. Temp. Lieut. E. R. Tempest, Gen. List; Lieut. P. D. Robinson, S.R.; July 30th. Temp. Lieut. L. R. Wren, York. and Lanc. R.; 2nd Lieut. (Temp. Lieut.) D. D. G. Hall, M.C., York. R.; Lieut. J. F. A. Day, S.R.; Lieut. A. H. G. Fellowes, S.R.; Lieut. W. Buckingham, M.C., S.R.; July 31st. Lieut. A. H. Vinson, S.R.; 2nd Lieut. C. Musgrave, S.R.; Aug. 1st. 2nd Lieut. (Temp. Lieut.) G. K. Macdonald, Notts. and Derby. R., S.R.; Lieut. W. S. Shirlcliffe, S.R.; 2nd Lieut. C. N. Russell S.R.; Aug. 2nd.

Flying Officers.—Temp. 2nd Lieut. W. H. Park, R. Ir. Rif., and to be transd. to R.F.C., Gen. List; May 17th. Temp. 2nd Lieut. A. B. Cook, Gen. List; May 24th. Temp. 2nd Lieut. J. A. Harman, A.S.C., and to be transd. to R.F.C., Gen. List; June 2nd. Lieut. L. H. Plant, R.F.A. (T.F.), and to be sec'd.; June 4th. Temp. Lieut. R. K. Tallyour, R.A., and to be transd. to R.F.C., Gen. List; June 26th. Temp. 2nd Lieut. F. H. Barlow, R. Lanc. R.; July 12th. Lieut. F. C. Townshend, Rif. Brig., S.R., and to be sec'd.; July 14th. Temp. 2nd Lieut. (on prob.) J. D. I. Hardman, Gen. List, and to be confirmed in his rank; July 21st. 2nd Lieut. (on prob.) A. Le R. Dean, S.R.; July 24th. Temp. 2nd Lieut. (on prob.) A. H. Kienz, Gen. List, and to be confirmed in his rank; July 26th. Lieut. H. Holroyde, Can. Inf.; Temp. 2nd Lieut. J. McN. Campbell, R. Scots, and to be transd. to R.F.C., Gen. List; July 28th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank: A. J. Wright, E. F. Van der Riet; C. T. Houston; July 29th. C. E. Ogden; July 30th. E. J. Blyth; July 31st. Lieut. E. M. Letts, Oxf. and Bucks. L.I. (T.F.), and to be sec'd.; Aug. 1st. The initials of Temp. 2nd Lieut. W. R. G. Wickham, Gen. List, are as now described and not as in the Gazette of July 13th. The appointment of 2nd Lieut. R. S. Macfarlane, Gord. Highrs. (T.F.), notified in the Gazette of June 15th, is antedated to May 9th. The appointment of 2nd Lieut. J. R. Patterson, R.F.A., S.R., notified in the Gazette of July 13th, is antedated to April 28th.

Flying Officers (Observers).—2nd Lieut. B. H. Harrison, Unattd. List, Ind. Army, from a Balloon Officer; July 12th, seniority Jan. 31st. 2nd Lieut. W. Allan, Lond. R. (T.F.); seniority Mar. 12th, and to be sec'd.; 2nd Lieut. (Temp. Lieut.) S. Willmott, R.F.A., S.R., seniority Mar. 12th; Temp. Lieut. R. B. Bond, R.W. Surr. R., and to be transd. to R.F.C., Gen. List; July 21st, seniority May 5th. Temp. Lieut. H. C. Clarke, D. of Corn. L.I., and to be transd. to R.F.C., Gen. List; July 5th, seniority May 12th. Temp. 2nd Lieut. H. M. Tayler, S. Afr. Inf.; July 14th, seniority June 20th. Temp. 2nd Lieut. A. K. A. M. Buschmann, attd. Middx. R., and to be transd. to R.F.C., Gen. List; July 11th, seniority June 27th; June 23rd.

Balloon Officer.—2nd Lieut. N. G. Pring, R.A., and to be sec'd.; May 1st.

Equipment Officers, 1st Class.—And to be Temp. Capt. whilst so employed: Lieut. L. W. W. Lees, R.G.A., S.R., from a Staff Lieut.; Temp. 2nd Lieut. S. R. Axford, Gen. List, from the 3rd Cl.; Aug. 1st.

2nd Class.—And to be Temp. Lieuts. whilst so employed: 2nd Lieut. S. T. Fripp, R.A. (T.F.), and to be sec'd.; June 15th. 2nd Lieut. D. A. Pearson, S.R., from the 3rd Cl.; July 30th.

Experimental Officer, 2nd Class (graded as an Equipment Officer, 2nd Class).—2nd Lieut. H. H. Chivers, S.R., from the 3rd Cl. (graded as an Equipment Officer, 3rd Cl.), and to be Temp. Lieut. whilst so employed; July 30th.

General List.—To be Temp. and Lieuts. (on prob.): E. O. Copas, H. N. Compton, R. T. Mallish, C. P. Leckie, D. W. Saunders, V. G. Snyder, C. Heebner, W. J. Cockburn, J. H. Drewry, L. A. Budd, J. L. Brandon, R. V. Irwin, W. H. Hall, G. D. Falkenberg, G. H. MacKay, T. G. Drew-Brook; July 7th. F. A. Downes; Aug. 8th. F. L. Roberts; Aug. 24th. Temp. 2nd Lieut. J. H. Hines resigns his commission, with a view to joining an Inf. Officer Cadet Bn.; Aug. 23rd. Temp. 2nd Lieut. H. D. P. Jehring (on prob.) is confirmed in his rank; Cadet H. Arnold to be Temp. 2nd Lieut. (on prob.); Jan. 26th (substituted for the Gazette notification Feb. 3rd, describing name as J. K. H. Arnold).

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The following to be Temp. 2nd Lieuts. —
For Duty with R.F.C.—Acting Sergt. A. T. Rose, from R.A.M.C.; June 19th. Sergt C. H. N. Nunn, from R.F.C.; July 2nd.

The following appointments are made:—

Squadron Commanders.—From Flight-Comdrs., and to be Temp. Majors whilst so employed: 2nd Lieut. (Temp. Capt.) E. M. Pollard, W. York. R. (T.F.); Mar. 16th. 2nd Lieut. (Temp. Capt.) R. H. Peck, E. Surr. R.; Aug. 1st. Temp. Capt. W. D. Long, Gen. List; Aug. 2nd. Capt. T. W. Mulcahy-Morgan, R. Ir. Fus.; Aug. 7th. Capt. (Temp. Lieut.-Col.) E. N. Fuller, S.R., to revert from a Wing Comdr., to relinquish his temp. rank and to be Temp. Major whilst so employed; Aug. 4th, seniority Sept. 5th, 1915.

Flight-Commanders.—Capt. K. B. Harbord, R.A., from a Staff Officer, 2nd Cl. (graded as a Brig. Major), School of Aerial Gunnery; July 16th. From Flying Officers, and to be Temp. Capt. whilst so employed: 2nd Lieut. (Temp. Lieut.) C. Butler, R.E. (T.F.); Temp. Lieut. H. G. Smart, Gen. List; 2nd Lieut. J. Manley, S.R.; July 23rd. Lieut. A. W. Kilgour, S.R. (since killed); July 26th. Temp. Lieut. A. C. Jowett, Gen. List; Temp. Lieut. S. W. Thompson, Gen. List; Lieut. G. E. F. Sutton, M.C., Can. Local Forces; Lieut. E. Cameron, Yeo. (T.F.); Temp. Lieut. J. A. Slater, Gen. List; Lieut. E. J. Watkins, S.R.; Temp. 2nd Lieut. R. W. Chappell, Gen. List; July 27th. Lieut. J. Whittaker, E. Lan. R. (T.F.); 2nd Lieut. (Temp. Lieut.) A. G. Taylor, Yeo. (T.F.); Temp.

Lieut. J. H. Metcalf, Gen. List; Lieut. G. J. Harter, S.R.; Temp. Lieut. J. L. Trollope, Gen. List; July 28th. Temp. Lieut. L. S. Weedon, Gen. List; Aug. 6th. 2nd Lieut. C. S. O'Grady, S.R.; Aug. 11th.

Flying Officers.—2nd Lieut. R. J. Grandin, A.S.C., and to be sec'd.; April 18th. 2nd Lieut. D. K. Best, Essex R. (T.F.), and to be sec'd.; Temp. 2nd Lieut. S. A. Mowat, Gen. List; May 30th. Lieut. P. R. Cawdell, A.S.C. (T.F.), from a Flying Officer (Ob.); June 23rd, seniority Aug. 7th, 1916. Temp. 2nd Lieut. (on prob.) W. Hunt, Gen. List, and to be confirmed in his rank; July 2nd, seniority April 5th. Capt. P. F. C. d'Erf Wheeler, Dorset R., S.R. (since killed); July 24th. Capt. E. C. Stonehouse, A.S.C. (T.F.); Lieut. R. S. Gaisford, R.A., and to be sec'd.; Temp. Lieut. C. E. Young, A.S.C., and to be transfd. to R.F.C., Gen. List; Temp. Lieut. J. E. Wight, R. Scots, and to be transfd. to R.F.C., Gen. List; Aug. 4th. The appointment of Temp. Capt. A. G. Waller, A.S.C., notified in the *Gazette* of Feb. 27th, to take seniority from Mar. 28th, 1916, but without pay prior to Feb. 10th, 1917. The appointment of Temp. 2nd Lieut. J. W. Sheridan, attd. Camn. Highrs., notified in the *Gazette* of Feb. 21st, is antedated to Jan. 23rd.

Flying Officers (Observers).—2nd Lieut. R. T. Daubeney, R.W. Kent R., S.R., seniority Jan. 23rd, and to be sec'd.; 2nd Lieut. (Acting Lieut.) J. G. Tobin-Willis, A.S.C., seniority April 15th, and to relinquish his acting rank; 2nd Lieut. H. R. Morgan, Yeo. (T.F.), seniority April 23rd, and to be sec'd.; Aug. 3rd. 2nd Lieut. H. G. Topham, Suff. R. (T.F.); Aug. 5th, seniority April 30th, and to be sec'd.

Balloon Commanders (graded as Balloon Officers).—2nd Lieut. (Temp. Lieut.) E. P. Fletcher, R.F.A., S.R., from a Balloon Officer; July 14th. From Balloon Officers, and to be Temp. Lieuts. whilst so employed: 2nd Lieut. A. S. Barnes, R.G.A., S.R.; Aug. 2nd. Temp. 2nd Lieut. W. H. Scanlan, Gen. List; Aug. 6th.

Equipment Officers, 1st Class.—And to be Temp. Capt. whilst so employed: Lieut. L. E. Palmer, York, and Lanc. R., from an Equipment Officer, 3rd Cl.; June 11th. 2nd Lieut. (Temp. Lieut.) L. V. Drake, Yeo. (T.F.), from an Asst. Instr. (graded as an Equipment Officer, 2nd Cl.), School of Mil. Aeronautics, and to be Temp. Capt. whilst so employed; July 1st. 2nd Lieut. (Temp. Lieut.) H. E. Jarman, S.R., from an Asst. Instr. (graded as an Equipment Officer, 2nd Cl.), School of Mil. Aeronautics; July 11th.

2nd Class.—2nd Lieut. R. Holloway, S.R., from a Flying Officer, and to be Temp. Capt. (without the allowances of that rank) whilst specially employed; June 24th. And to be Temp. Lieuts. whilst so employed: 2nd Lieut. L. G. Courage, S.R., from a Flying Officer; July 11th. 2nd Lieut. H. J. de C. Moore, S.R., from the 3rd Cl.; 2nd Lieut. C. H. Stevens, S.R., from a Flying Officer; 2nd Lieut. F. C. E. Dimmick, S.R., from the 3rd Cl.; Aug. 1st.

3rd Class.—Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank: S. B. Cave, J. W. Gage, H. R. Horswill, E. F. Hutley, C. Liver, R. H. Rivers, H. D. Spratt, E. R. Blount, J. Breckman, D. W. Edmonds, A. A. Gardner, E. E. Johnson, A. E. Richardson, J. W. Cruickshank, A. G. O. Ellis, R. U. Nash-Taylor, C. W. B. Tubbs, P. D. Wilson; July 31st. Temp. Qr.-Mr. and Hon. Lieut. H. W. Clarke, A.S.C., and to be transfd. to R.F.C., Gen. List; Aug. 1st.

Experimental Officer, 3rd Class (graded as an Equipment Officer, 3rd Class).—2nd Lieut. (Temp. Lieut.) W. W. Stainer, R. Suss. R. (T.F.), from a Flying Officer; July 4th.

General List.—To be Temp. 2nd Lieuts. (on prob.): S. N. Cooke; July 23rd. A. T. B. Kell; Aug. 11th. Sergt. W. Lienard, from R.F.C., and to be Temp. 2nd Lieut.; Aug. 24th. The appointment to a temp. commission as 2nd Lieut. (on prob.) of Cadet E. K. W. Toogood, notified in the *Gazette* of July 6th, is cancelled.

Supplementary to Regular Corps.—2nd Lieut. (on prob.) P. S. Haythorpe resigns his commission on account of physical unsuitability as a pilot or observer, July 21st (substituted for the notification in the *Gazette* of July 20th). The following resign their commissions: 2nd Lieut. J. L'Estrange, 2nd Lieut. (on prob.) J. P. Macdonald; Aug. 24th.

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The following appointments are made:—

Flight-Commanders.—From Flying Officers, and to be Temp. Capt. whilst so employed: Temp. Lieut. W. St. J. Scott-Scott, Gen. List; Aug. 8th. Lieut. N. H. Read, S.R.; Aug. 10th.

Flying Officers.—Temp. 2nd Lieut. (on prob.) C. A. McCreath, Gen. List, and to be confirmed in his rank; June 4th. 2nd Lieut. (Temp. Lieut.) A. O. Macniven, High. L.I. (T.F.), from a Flying Officer (Ob.); June 19th, seniority Sept. 4th, 1916. 2nd Lieut. (Temp. Lieut.) E. Wornum, A.S.C. (T.F.); July 4th. Capt. A. C. St. Clair Morford, R. Mar.; July 7th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank: H. A. Miller, July 6th. J. R. Park; July 13th. A. Taylor; July 15th. H. K. Boysen, F. C. Conry, F. S. McClure; July 16th. E. A. L. F. Smith; July 19th. C. Nemes; July 20th. A. A. Aalen, C. R. Moore; July 21st. Temp. 2nd Lieut. W. S. Wright, Gen. List, from a Flying Officer (Ob.), seniority Aug. 3rd, 1916; July 30th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank: E. A. Westlake, D. P. Trollop, O. A. C. Gibbons, F. P. Lush; July 31st. Temp. 2nd Lieut. L. Wigley, Gen. List, from an Equipment Officer, 3rd Cl.; Aug. 1st. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—Aug. 5th: T. L. Quinn, J. Tuttle, E. O. Krohn; Aug. 6th.

Flying Officers (Observers).—Aug. 3rd, seniority April 14th: Temp. 2nd Lieut. R. C. Jones, R.A., and to be transfd. to R.F.C., Gen. List; 2nd Lieut. C. M. G. Horton, R.A., and to be sec'd.; 2nd Lieut. W. C. Thompson, R.A., and to be sec'd.; 2nd Lieut. E. M. Slatter, Yeo. (T.F.), and to be sec'd.; Temp. 2nd Lieut. K. E. Tanner, Ches. R., and to be transfd. to R.F.C., Gen. List; Aug. 6th, seniority May 24th. 2nd Lieut. (Temp. Lieut.) J. McI. P. Adam, K.O. Sco. Bord. (T.F.); Aug. 3rd, seniority June 1st.

Balloon Officers.—Temp. Lieut. T. G. Greenwell, R.A., and to be transfd. to R.F.C., Gen. List; Temp. 2nd Lieut. J. C. A. Cameron, attd. North'n. R., and to be transfd. to R.F.C., Gen. List; 2nd Lieut. F. St. J. North, R.F.A., S.R.; Aug. 6th.

Equipment Officers, 1st Class.—Temp. Lieut. P. Worthington, M.C., Gen. List, from a Balloon Comdr. (graded as a Balloon Officer), and to be Temp. Capt. whilst so employed; Aug. 1st.

3rd Class.—Temp. 2nd Lieuts. (on prob.) W. J. Bunting, Gen. List, and to be confirmed in his rank; April 25th. Lieut. F. D. Maclean, R.A., and to be sec'd.; July 4th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank: G. R. Eaton, A. E. Fisher; July 23rd. 2nd Lieut. S. A. Turner, L'pool R. (T.F.), and to be sec'd.; Temp. 2nd Lieut. V. A. Cooper, Suff. R., and to be transfd. to R.F.C., Gen. List; July 31st. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank: W. G. Andrews, E. W. Dormer, F. J. C. Exton, W. J. Hembry, L. F. Roslyn, J. P. Sadler, W. L. Vining, F. H. Bartlett, H. Bayer, D. Beaumont, H. Best, F. P. Burns, W. Burrows, F. A. Carter, J. Hodder; Temp. 2nd Lieut. E. A. Laurie, attd. Glouc. R., and to be transfd. to R.F.C., Gen. List; Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank: P. J. Bertin, S. F. Boam, W. A. Carroll, L. H. Straker; 2nd Lieut. (Temp. Lieut.) G. H. B. Johnson, Durh. L.I. (T.F.), from a Flying Officer; Temp. 2nd Lieut. H. C. Bishop, Glouc. R., and to be transfd. to R.F.C., Gen. List; Temp. 2nd Lieut. W. H. Pullen, R. Lanc. R., and to be transfd. to R.F.C., Gen. List; Temp. 2nd Lieut. C. M. Hennell, R.E.; Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank: F. J. Cowlshaw, G. A. Bainbridge.

Special Appointment (graded as an Equipment Officer, 2nd Class).—Temp. 2nd Lieut. A. W. Smith, Gen. List, from an Equipment Officer, 3rd Cl.; Aug. 1st.

Assistant Instructors in Gunnery (graded as an Equipment Officer, 2nd Class).—2nd Lieut. H. J. G. Dyer, S.R., from an Equipment Officer, 3rd Cl., and to be Temp. Lieut. whilst so employed; July 12th. **Graded as Equipment Officers, 3rd Class.**—Temp. Lieut. A. W. Furbank, M.G. Corps, and to be transfd. to R.F.C., Gen. List; Lieut. B. B. J. A. O'Donnell, M.C., R. War. R. (T.F.), from M.G. Corps; Aug. 4th.

General List.—Flight-Sergt. G. G. L. Blake, from R.F.C., to be Temp. 2nd Lieut.; July 17th. To be Temp. 2nd Lieuts. (on prob.): H. T. Kingsley, late Temp. 2nd Lieut., Worc. R.; H. A. Lyford; Aug. 24th.

Schools of Instruction.—**School of Aerial Gunnery.**

Commandant (graded as a Depot Commander).—Temp. Lieut. (Temp. Major) G. R. Moser, Arg. and Suthd. Highrs., from a Special Appointment (graded as a Park Comdr.), and to retain his temp. rank whilst so employed; Aug. 1st.

Supplementary to Regular Corps.—2nd Lieuts. to be Lieuts.:—July 1st: V. M. Grantham, N. H. Colson, (Temp. Capt.) J. C. Slessor, M.C., O. Lerwill, T. C. Wilson, F. N. Grimwade, (Temp. Capt.) H. J. C. Smith, (Temp. Capt.) S. Dalrymple, (Temp. Lieut.) G. A. Crane, (Temp. Capt.) E. W. Havers, (Temp. Major) C. G. Smith, (Temp. Capt.) W. S. R. Bloomfield, (Temp. Capt.) W. H. Tolhurst, (Temp. Capt.) R. K. C. Maguire, D. Cushing, J. H. Firstbrook, (Temp. Capt.) O. V. Thomas, (Temp. Lieut.) L. A. Clayton, C. P. W. Jolliffe, (Temp. Major) J. W. Jardine, (Temp. Lieut.) J. V. Read, W. J. M. Tomson, (Temp. Capt.) W. H. Hubbard, (Temp. Capt.) G. A. Lascelles, J. W. Lockhart, C. T. Lally, (Temp. Capt.) S. N. Cole, (Temp. Capt.) B. F. Crane, (Temp. Capt.) S. G. Frost, I. Curlewis, M.C., (Temp. Capt.) J. L. Horridge, D. K. Sworder, (Temp. Lieut.) S. S. Dixon, (Temp. Capt.) C. Holland, M.C., (Temp. Capt. M. W. Bovill, K. C. Cleaver, (Temp. Lieut.) J. MacD. Patten (since accidentally killed), (Temp. Lieut.) L. H. B. Cosway, (Temp. Capt.) W. R. Snow, M.C., J. R. Frankish, S. R. Proctor, P. B. Moxon, (Temp. Capt.) H. R. Hawkins, (Temp. Capt.) T. Macleod, R. M. J. Dunphy, (Temp. Capt.) R. C. M. Smith, (Temp. Capt.) J. E. Rendle, C. Kerr, (Temp. Lieut.) P. S. Kershaw, M. W. Wilson, (Temp. Capt.) C. N. Seaman, R. L. Brancher, (Temp. Capt.) K. L. Caldwell, (Temp. Capt.) H. R. Harker, C. A. R. Shum, E. M. Wright, H. F. Chapman, (Temp. Lieut.) A. R. Thomas, (Temp. Lieut.) D. C. Bauer, (Temp. Capt.) G. Mackrell, F. B. Baragar, L. F. Peaty, L. B. Aylen, H. B. FitzHerbert, H. H. W. Vowden, R. H. Norton-Dawson, L. C. de Beer, F. M. Iredale, (Temp. Capt.) E. E. E. Pope, (Temp. Capt.) H. F. Wright, (Temp. Lieut.) J. H. Inskip, J. Fairbairn, P. H. Smith, (Temp. Lieut.) A. J. M. Ross, T. Morrison, A. L. Jurd, H. A. Rigby, J. R. Verel, C. D. Bennett, E. P. M. Shaw, W. S. Frackleton, P. B. Pattison, C. G. H. Winter, G. H. Jacob, C. J. Kennedy.

General List.—Temp. 2nd Lieut. N. F. Clarke (since killed) is confirmed in his rank.

Cadets to be Temp. 2nd Lieuts. (on prob.):—

R. J. Aitken, A. F. Alexander, A. L. Allan, R. Allan, W. F. Allen, C. C. Allinson, J. D. Anderson, C. Armstrong, T. A. Armstrong, L. E. Atha, T. B. Barnes, T. W. Banks, A. Barrett, C. R. Buscombe, W. T. Bassett, A. C. Bennett, G. C. Betts, R. V. Betts, A. Bevan, W. Biheller, A. H. Bircher, P. W. Birbeck, A. W. Blake, E. E. Blakemore, F. V. Bonny, C. H. Brown, N. Bury, J. O. Butler, J. H. Calvert, L. H. T. Capel, H. K. Cassels, A. W. Chadwick, H. L. Christie, B. D. Clark, F. W. Clark, J. Clark, W. G. Clark, R. Cook, A. Coombs, D. Chisholm, W. Crooke, J. Cunliffe, A. H. R. Daniel, G. S. Daniel, H. Daniel, F. J. Davey, J. H. Dewhurst, J. D. Dingwall, J. A. Donaldson, L. Duffus, C. H. Dunster, L. E. Dunnett, C. Eaton, G. E. F. Elliott, J. MacG. Fairweather, J. P. Fennelly, H. E. R. Finch, J. P. Findlay, R. J. Finlay, R. W. Frean, R. S. Fitch, L. Fleet, E. W. Fleming, G. D. Fleming, J. J. Flynn, F. J. Fogarty, D. T. Forbes, O. W. Frayne, A. H. Fraser, J. L. S. Fry, J. F. Gierme, J. L. K. Gifford, C. B. J. Gledhill, G. Gornall, M. H. Goudie, J. C. Green, C. E. Grimes, J. M. Hancock, A. S. Hanna, H. T. Harrison, V. W. Hatton, A. C. R. Hawley, W. E. Hedley, A. R. M. Henderson, S. J. Hine, H. H. E. Holt, P. Hopcroft, H. A. W. Hopson, J. L. Horne, G. J. Hutcheson, R. N. Iverach, W. Jack, M. L. James, E. L. Johnson, O. Jones, W. W. Jones, J. F. M. Kerr, A. C. Kiddell, A. J. Kilpatrick, A. T. Laing, W. Lamont, W. Ledlie, J. S. Lennox, A. Lewin, B. L. Lindley, C. Longland, S. D. Macdonald, E. T. Matland, W. S. Mars, A. J. Marsden, L. Marshall, J. W. Martin, G. Martyn, E. Mather, R. J. Matthews, G. N. Middleton, N. A. McIntosh, C. B. Mellor, B. W. St. J. Mildmay, R. Milner, A. B. McCarthy, C. M. McClean, C. McEvoy, A. McGregor, W. L. McGregor, A. McKean, W. H. McLaughlan, R. McLaughlin, G. Miller, G. G. Newbury, H. C. M. Nangle, C. G. D. Napier, F. Nash, W. Newby, B. L. Norton, E. Osborne, J. Palmer, M. J. Paton, J. A. Pearson, G. A. Penny, W. D. Peock, R. O. Phillips, G. W. R. Pidsley, A. A. R. Pilcher, W. B. Pilling, J. Pollock, W. Pople, J. Prentice, L. H. Raybould, W. G. Redman, E. A. F. Reeve, I. A. Romyrn, R. K. Rose, L. E. Rutherford, J. T. Rymer, H. W. L. Saunders, J. A. Scrivener, J. F. Shaw, K. G. Siddaway, E. W. Simpson, A. S. Sinclair, T. F. Pilcher, C. G. Slaker, A. E. Smith, D. E. Smith, F. W. Smith, L. G. Smith, J. S. Southey, S. J. Squires, A. E. Steele, J. R. Stovell, T. D. Sykes, W. J. Tarring, A. B. Taylor, R. J. Thomas, W. L. Thomas, C. R. Thompson, F. H. Tippet, J. Todd, R. H. Topliss, P. E. Tyson, H. R. Uttley, J. A. Wagner, D. S. Walsh, E. G. L. Ward, W. W. Waterson, G. Waugh, J. R. Webb, F. G. Westwood, F. J. E. Willis, A. B. Williams, F. R. P. Williams, J. Williamson, A. J. Willox, C. J. Wilsdon, F. B. Wilson, J. Wingate, A. F. Wylie, E. B. Young, G. C. Young; Aug. 2nd.

The following appointments are made:—Squadron Commander.—2nd Lieut. (Temp. Capt.) W. R. Snow, M.C., S.R., from a Flight Comdr., and to be Temp. Maj. whilst so employed; Aug. 16th. Special Appointment.—(Graded as a Squadron Comdr.)—Lieut. (Temp. Lieut.-Col.) H. E. Chaney, Lan. Fus., from Comdt. of a School of Aerial Gunnery (graded as a Depot Comdr.), to relinquish his temp. rank, and to be Temp. Maj. whilst so employed; Aug. 1st. Flight Comdr.—2nd Lieut. (Temp. Lieut.) W. R. B. McBain, R.F.A. (T.F.), from a Flying Officer, and to be Temp. Capt. whilst so employed; July 26th.

Flying Officers.—2nd Lieut. H. C. Ridler, Yeo. (T.F.), and to be sec'd.; Temp. 2nd Lieut. A. F. Goodchap, Glouc. R.; June 30th. Temp. 2nd Lieut. F. S. Briggs, M.G. Corps, and to be transfd. to R.F.C., Gen. List; 2nd Lieut. (on prob.) W. A. Merrill, S.R.; July 1st. Capt. R. F. Jenyns, Cyclist Bn. (T.F.), and to be sec'd.; Lieut. E. E. Wright, R. Suss. R. (T.F.), and to be sec'd.; Lieut. J. O. Allison, Canadian Inf.; July 6th. 2nd Lieut. D. Colyer, Line R., and to be sec'd.; July 8th. 2nd Lieut. W. S. Reid, Yeo. (T.F.), from a Flying Officer (Ob.); July 11th, seniority Aug. 29th, 1916. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—F. M. Nash; July 16th. B. C. L. Barton, W. E. Graham; August 5th. 2nd Lieut. (on prob.) G. A. Learn, S.R.; Aug. 5th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank: A. E. Francis, B. Truscott; Aug. 7th.

Adjutants.—Capt. E. C. Perrin, Ches. R. (T.F.), from a Flying Officer (Ob.); May 17th. 2nd Lieut. C. H. Bell, S.R., from a Flying Officer, and to be Temp. Capt. (without the pay and allowances of that rank) while so employed; Aug. 9th.

Equipment Officers, 1st Class.—Lieut. V. F. P. Bryce, S.R., from the 2nd Cl., and to be Temp. Capt. while so employed; May 14th.

3rd Class.—Temp. 2nd Lieut. (on prob.) S. G. Williams, Gen. List, and to be confirmed in his rank; July 4th.

Special Appointments.—(Graded as Equip. Officers, 1st Cl.)—Lieut. (Temp. Capt.) V. F. P. Bryce, S.R., from an Equip. Officer, 1st Cl., and to retain his temp. rank while so employed; June 22nd. Lieut. F. D. Maclean, R.A., from an Equip. Officer, 3rd Cl., and to be Temp. Capt. while so employed; July 5th. The appt. of Lieut. V. F. P. Bryce, S.R., notified in the *Gazette* of Aug. 11th, is cancelled. (Graded as Equip. Officers, 2nd Cl.)—Temp. Lieut. G. A. Scott, Essex R.; Aug. 13th. From Flying Officers, and to be Temp.

Lieuts. while so employed:—2nd Lieut. A. G. Saxty, Som. L.I., S.R.; and Lieut. C. D. Kershaw, W. Rid. R., S.R.

Memorandum.—Temp. 2nd Lieut. R. F. McMichael, Gen. List, to take rank and precedence in the R.F.C. and in the Army as if his appt. as Temp. 2nd Lieut. bore date June 19th.

Supplementary to Regular Corps.—Lieut. A. Lang, from Australian Flying Corps, to be Lieut.; Aug. 26th, seniority Dec. 23rd, 1915.

London Gazette Supplement, August 27th.

The following to be Temp. 2nd Lieuts.:

For duty with R.F.C.: 1st Cl. Air-Mech. E. A. Clear, from R.F.C.; April 28th. Sergt.-Major R. Croucher, from N.Z. Forces; Corpl. G. O. Lowe, from S.A., R.F.C.; 1st Cl. Air-Mech. H. Spencer, from S.A., R.F.C.; 2nd Cl. Air-Mech. C. W. G. Ratsey, from S.A., R.F.C.; 2nd Cl. Air-Mech. A. K. Prentice, from S.A., R.F.C.; Pte. J. C. Walker, from A.S.C.; May 2nd. Corpl. C. J. Thomson, from S.A., R.F.C.; Pte. L. Acton, from Can. A.M.C.; Pte. F. B. Farquharson, from Can. A.M.C.; May 26th. Pte. G. H. Stuart, from Can. A.M.C.; May 28th.

The under-mentioned appointments are made:—

Wing Commander.—Capt. (Temp. Major) D. L. Allen, R. Ir. Fus., from a Sqdn. Comdr., and to be Temp. Lieut.-Col. whilst so employed; July 1st.

Flight Commander.—2nd Lieut. (Temp. Lieut.) B. K. B. Barber, North. Fus., from a Flying Officer, and to be Temp. Capt. whilst so employed; Aug. 10th.

Flying Officers (Observers).—Temp. 2nd Lieut. F. Adams, R. Fus., seniority May 6th, and to be transfd. to R.F.C., Gen. List; Temp. 2nd Lieut. (on prob.) M. H. Drake, Gen. List seniority July 17th, and to be confirmed in his rank; Aug. 8th.

Balloon Officer.—2nd Lieut. (Temp. Capt.) B. H. Sisson, R.G.A., S.R., to

revert from a Balloon Comdr. (graded as a Flight-Comdr.), to relinquish his temp. rank and to be Temp. Lieut. whilst so employed; Aug. 12th, seniority Mar. 10th, 1916.

Equipment Officers, 1st Class.—Qr.-Mr. and Hon. Lieut. (Temp. Lieut.) D. McBirney, R.F.C., from the 2nd Cl., and to be Temp. Capt. whilst so employed; Aug. 1st.

2nd Class.—2nd Lieut. J. E. L. Wrench, S.R., from the 3rd Cl., and to be Temp. Lieut. whilst so employed; Aug. 1st.

3rd Class.—Temp. 2nd Lieut. (on prob.) C. L. Taylor, Gen. List, and to be confirmed in his rank; Aug. 9th.

General List.—To be Temp. 2nd Lieuts.: 2nd Cl. Air-Mech. S. Curzon, from R.F.C.; Pte. A. E. W. Finch, from A.S.C.; Sergt. F. R. Assinder, from R.F.C.; Pte. C. H. Chadwick, from O.T.C.; Pte. G. Williams, from A.O.C.; July 31st. To be Temp. 2nd Lieuts. (on prob.): Cadet W. J. McClelland, from R.F.C.; Aug. 15th. Temp. Sergt.-Major H. J. L. Greatwich, from R.F.C.; Aug. 24th.

Memoranda.—2nd Lieuts., S.R., to be Temp. Lieuts. whilst serving with R.F.C.: A. W. M. Horne, R. Lanc. R.; R. T. Daubeny, R.W. Kent R.; F.V. Carpenter, Dorset R.; S. S. Jones, M.C., S. Lan. R.; W. E. Swann, R. Innis. Fus.; V. R. S. White, M.C., S. Staff. R.; F. M. F. West, R. Muns. Fus.; H. Davis, E. York. R.; I. B. Wallis, R.F.A.; W. F. N. Forrest, R.F.A.; F. Woodcock, R.G.A.; S. E. Toomer, R.G.A.; C. L. Phipps, R.G.A.; W. S. L. Payne, M.C., R.G.A.; H. B. Hill, R.W. Kent R.; H. F. McArdle, K. Edward's Horse; R. A. Skelton, R.G.A.; V. L. Anderson, Arg. and Suttd. Highrs.; V. Hermann, R.F.A.; J. St. G. George, N. Staff. R.; G. H. Gibbs, R.G.A.; M. O. Prismall, R.F.A.; A. M. Lewis, R.G.A.; B. A. Powers, Middx. R.; M. O. Haskell, R.F.A.; H. W. Taylor, M.C., R.F.A.; J. G. Sharp, R.G.A.; A. Clarke, Suff. R.; Aug. 1st. 2nd Lieut. (on prob.) M. Montesole, from R.F.C. S.R., to be Temp. 2nd Lieut., Gen. List; Aug. 28th.

AIRCRAFT WORK AT THE FRONT.

OFFICIAL INFORMATION.

British.

Admiralty, August 21st.

"At about midnight, Aug. 19th-20th, the R.N.A.S. dropped many tons of bombs on Middelkerke dump and on Brugseise works. All machines returned safely."

General Headquarters, August 21st.

"Great activity in the air continued yesterday on both sides. Our aeroplanes successfully carried out their usual work, although enemy aircraft were aggressive. In air fighting nine German machines were brought down and seven driven down out of control. Four of our aeroplanes are missing."

General Headquarters, August 22nd.

"Yesterday there was again great activity in the air on both sides, and fierce fighting took place. Twelve German aeroplanes were brought down by our machines, and five others were driven down out of control. Twelve of our aeroplanes are missing, including two which collided behind the enemy's lines during a bombing raid."

Admiralty, August 23rd.

"A bombing raid by naval aircraft was carried out at three o'clock yesterday morning (August 22nd) on Zeebrugge Mole, shipping and batteries, some hits being made. A raid was also made on Ghistel aerodrome at 6.30 a.m., August 22nd. Bombs exploded near the western shed, and a fire was started. All machines returned safely."

General Headquarters, August 23rd.

"During the past week fighting in the air has been incessant and more severe than in any other similar period since the beginning of the war. Yesterday the activity of the enemy's aircraft was less marked, and his pilots appeared disinclined to engage when close to the lines. None the less a great number of fights again took place, in which our machines were favoured by the change of wind. As the result of the fighting 12 German aeroplanes were brought down and six others were driven down out of control. Two of our machines are missing, one of which was seen to effect a landing on the beach at Ostend. Throughout yesterday's attacks our aeroplanes successfully co-operated with our artillery and infantry, and the usual bombing and reconnaissance work was also carried out. In the course of the day and night five tons of explosives were dropped on various objectives behind the enemy's lines."

Admiralty, August 24th.

"Early yesterday morning (August 23rd) bombing attacks were carried out by the Royal Naval Air Service on the following military objectives:—Middelkerke dump, Ravensyde dump, Houttave aerodrome. Many tons of bombs were dropped. All machines and pilots returned safely."

General Headquarters, August 24th.

"The customary work of our aeroplanes was continued yesterday, in spite of unfavourable weather and high westerly winds. The enemy's aircraft showed little activity. In air fighting one German aeroplane was brought down and one other driven down out of control. Three of our machines are missing."

War Office, August 24th.

"**Salonica.**—During the past week our aeroplanes have dropped bombs on the enemy's dumps at Sarmusakli (south-east of Seres), Dutli (north of Seres), and Demirhissar. We have also, in conjunction with allied machines, raided Prilep and neighbouring places."

French.

Paris, August 20th.

"Our airmen took a brilliant part in the battle, using their machine guns from a low altitude on gatherings of the enemy, and thus contributing to the repulse of the counter-attacks. Our pilots have destroyed 11 German machines, on the army front, and two others were shot down by our special guns."

"**Salonica.**—The Allied Air Services carried out important bombardments. Fifty aeroplanes dropped in the neighbourhood of Prilep 1,500 kilogrammes (1½ tons) of explosives, causing a large number of fires."

Paris, August 21st.

"Our airmen bombarded in Belgium the railway stations of Thourout, Roulers, Staden, Gits, and in the region of Verdun the railway stations of Dun-sur-Meuse, Brioules, Fleville, and the dump of Bantheville, where a great fire broke out."

"During the day yesterday, Aug. 20th, 21 German machines were brought down by our pilots in air fighting. Most of these machines are reported to have been totally destroyed."

"During the day of Aug. 19th an enemy aeroplane and captive balloon met with the same fate."

"The enemy's aircraft last night bombarded our rear, and in particular a prisoners' collecting camp, where a great number of German prisoners were hit."

"**Salonica.**—French and British airmen bombarded the quarters occupied by an enemy staff at Prilep."

Paris, August 22nd.

"Last night German aeroplanes dropped bombs on the district of Gerardmer. There were no casualties, and no damage was done. In the course of to-day

six German aeroplanes were destroyed in air fights, and five others fell within their own lines damaged. It is confirmed that two further German aeroplanes were brought down on the 20th by the fire of our machine guns."

"**Salonica.**—There was great aerial activity by both sides. The Allied airmen successfully bombed the enemy camps and parks in the region of Capari. Three enemy machines were brought down during these operations."

Paris, August 23rd.

"On August 22nd our squadrons bombarded the railway stations of Freiburg in Breisgau and the aviation grounds of Colmar and Schlettstadt. In the region of Verdun 1,300 kilogrammes of projectiles were dropped on the railway stations and bivouacs and aviation grounds of the enemy. Our aircraft also attacked with machine gun fire transports on the march."

"In the region east of Altkirch our artillery caught a German kite balloon under its fire, and it came down in flames."

Paris, August 24th.

"**Salonica.**—British aircraft bombarded the enemy's establishments near Demirhissar."

Paris, August 25th.

"**Salonica.**—British airmen bombed the enemy depots north of Doiran."

Belgian.

Brussels, August 21st.

"Our airmen, favoured by the weather, have made very many flights. It is confirmed that two enemy aeroplanes have been brought down, one on Aug. 16th at Gheluvelt, and the other on the 18th near Tervaele."

"Both yesterday and to-day there has been great activity on the part of German airmen. About 250 flights have been made on each day."

Brussels, August 26th.

"During the past week our airmen have been particularly active. They engaged in several encounters, in which four enemy aeroplanes were brought down near our trenches, and opened machine-gun fire on various occasions against the enemy organisations in the region of Dixmude and Lille, flying over them at a low altitude."

Russian.

Petrograd, August 21st.

"**Baltic Sea.**—On Aug. 19th several squadrons of enemy hydroplanes carried out three flights over the coast of Oesel. In the Gulf of Riga our airmen, meeting the enemy, forced him to retire. An enemy aviator dropped bombs on the town of Arensburg. Our airmen carried out a flight over the Courland coast line, where they dropped bombs on the enemy military establishments."

"In the direction of Baranovitch enemy aeroplanes dropped bombs on the railway station of Arda."

Petrograd, August 23rd.

"On the Riga coast one of our aeroplanes brought down a German hydroplane, which fell into the sea."

Italian.

Rome, August 21st.

"Two hundred and sixty-one of our aeroplanes have flown on the battlefield. Troops massed between Selo and Comeno and on the eastern slopes of Mount Hermada were bombarded. The works at the Tarvis Railway centre and enemy troops in movement there were bombed with five tons of high explosives. One of our chasing machines did not return to its base. One enemy aeroplane was brought down."

"At nightfall they were attacked fruitlessly by hostile aeroplanes. Enemy seaplane K212 was brought down by our anti-aircraft guns and captured in the Grado Lagoon."

Rome, August 22nd.

"Masters of the air over the battlefield, our aeroplanes have bombarded troops and hutments in the Chiapovano Valley and along the eastern slopes of Mount Hermada, making the enemy suffer losses and causing conflagrations in his communication lines."

Rome, August 23rd.

"The arm of the air also yesterday co-operated in the success. Our aeroplane and airships have bombarded the enemy, dropping over 12 tons of bombs."

Rome, August 24th.

"On high our aviators, with untiring élan, and giving the enemy no truce, have bombarded his massed troops and carried destruction into his communication lines by dropping 15 tons of bombs."

German.

Berlin, August 21st.

"The other arms, particularly the pioneers and the aviators, materially assisted in the satisfactory termination of the day. The battle before Verdun has not terminated. Twenty-six enemy airmen were shot down. We lost five aeroplanes."

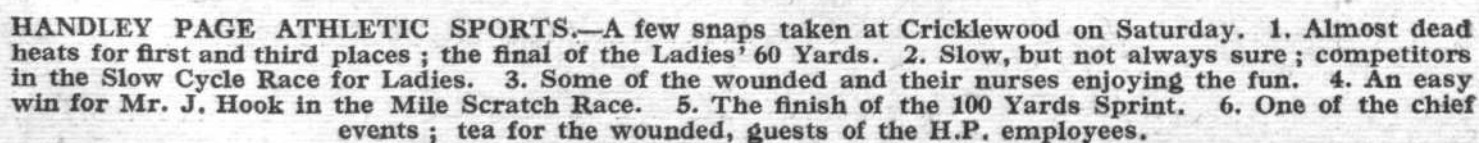
Berlin, August 23rd.

"In the course of the enemy air attack on the night of August 21st a girl was killed at Metz. No military damage was done at Ensisheim, Freiburg, and Schlettstadt, but a woman and five children were injured."

AIRCRAFT workers and their friends met together and spent a happy day in the Avenue Grounds, Cricklewood Lane, last Saturday. It was the occasion of the first annual sports of the athletic and social club attached to the house of Page, and as a first attempt left little to be desired either as regards the weather or the way everything passed along on smoothly running wheels.

In addition to the house events, there were six open competitions, including the inevitable tug-of-war that has now become the chief purpose of gala days when munition workers pit their muscle, house against house.

Nothing could well be more surprising than the number of "dark horses" that come to light in these private sports meetings, and the Handy Page works shelters not a few of



them. The times of some of the races were really splendid, the 100 yards, for instance, being run several times in but little over record time. True, the course was slightly downhill, which would not have been allowable under record conditions, but for all that the running was remarkably good.

The ladies' 60 yards, as usual, proved one of the most interesting events, and was won in breathless style by a fair athlete, described by the megaphone man as the "lady in the blue frock." It occurred to many of us who had witnessed recent sports that it was a pity Miss White of Darracq's had not entered for this race. It will be remembered the fine performance this lady put up at the Aircraft Industry Sports, when she won the "FLIGHT" prize, also that she won the same event at Hendon last year. Both girls ran this distance so well and in such professional style that there were suggestions on the ground in more than one quarter that it would be a sight worth seeing for these two feminine exponents of sprinting either to be matched or meet in a 60 yards race. Should there be an open 60 at the Sopwith sports to be held on September 15th, perhaps these outstanding amateurs will consent to try out their prowess for the benefit of their many admirers.



"H.P."—Troubles all packed in old kit-bag, &c.

Speaking of the megaphone man, in passing, compliment must be accorded to him for the way he helped to keep everybody amused, in the execution of his lung-stretching duties. He had a pretty turn of wit and repartee together with a way of his own in returning results that was highly amusing. The band worked hard and did their level best to make merry, but why, oh, why did they hark back to the Ark for the sheet music collected by Noah for his historic trip? "A Boy's Best Friend is his Mother" may be very true, but it was little consolation to the man who missed the track and ran off the course by 50 yards when he was winning "hands down" whilst they were letting it go.



"T.P."—Not a chip, but an abbreviated H.P. brotherly edition.

excellent tea. Tommy can always enjoy himself under like conditions, and his interest in sport needs no bush;

Aeroplane for the North Pole.

INCLUDED in the equipment which Roald Amundsen intends to take with him for the Arctic Expedition which is to start next March or April, is an aeroplane to be used for scouting in the Arctic regions.

How the Ramsgate Raiders were Brought Down.

How the two Gotha raiders were brought down in the neighbourhood of Ramsgate on August 22nd was told by a prominent official of the town to a *Daily Mail* correspondent. He says: "The Huns made a dash for the sea as though attempting to escape, but could not get through the tremendous fire and had to turn back inland. Then it was that two of them came down within a few minutes. One nose-dived, burst into flames and fell spinning round and round like a top. It was a real spiral descent. One of the wings became detached and floated out towards the sea. The charred remains of the rest of the machine fell between Ramsgate and Margate. The second machine started to drop before the first one had reached the ground. It was a

therefore it may be guessed that the applause from his quarter of the ground was lacking neither in volume nor heartiness.

The tall figure of "H.P." himself was here, there and everywhere, and if any man enjoyed himself that day it surely was he, judging by the appearance of his face; kindly note the seraphic smile—which would not come off—in our marginal photograph. Maybe at that exact moment he was booking an order for another century of H.P.s.

A word of praise must be accorded to Mr. W. H. Jones, the Sports Hon. Secretary, who worked as hard as it was possible to work, and kept things on the move throughout the entire afternoon. To him very much of the day's pleasure was due, for nothing is so likely to mar a meeting of this character as long waits between events with, generally, an attempt to close up by running others out of their turn, thus getting spectators horribly muddled as to what is taking place. There was nothing of this at Cricklewood.

In one respect the elements took charge to the distress of the poor man at the events board! He must have dreamed that night of rafwires and strainers, for a few would have been of much service for anchoring his boards to the ground.

The wind played a merry dance with the two he had charge of, and the way he chalked on one whilst holding it down with his feet, his other hand meanwhile being engaged in reclaiming the other, was a sight worth seeing. If he is not ambidextrous, he certainly seemed to be a double-jointed acrobat.

Mr. Handley Page presented the prizes in both meanings of the word, and they must have cost him a pretty penny, backed up by much crisp paper. At the real presentation he was entirely in his element, albeit he had that usual appearance we all know so well; the appearance of shy embarrassment, which, if real, he has a remarkable gift of covering by witty and subtle remarks.

Dancing, continuing until late in the evening, brought to a finish a very enjoyable afternoon's sport, which we hope to see repeated next year, with—as a suggestion—some inter-club events, always so interesting.

wonderful sight. In the glorious sunlight one could see the aeroplane turning over and over—alternate patches of grey and flashes of white as the plane caught the sun's rays. In this way it was taken out to sea where it disappeared."

The remains of the three occupants of the first machine were buried at Margate on August 27th. Officers and men of the R.N.A.S. attended, and the military provided an escort and a firing party. The burial service of the Church of England was read by a military chaplain, and afterwards three volleys were fired and the Last Post sounded. There were no name-plates on the coffins.

Fire Brigades and Air Raids.

By a new Defence of the Realm regulation the Home Secretary is empowered, where he is satisfied as respects any area that it is expedient for the better protection of the area from fire that, in case of an air raid or apprehended air raid, the fire brigades and fire appliances in the area, or any of them, should be employed under single control, to constitute it a special fire brigade area, acting under the chief officer of one of the brigades, or some other specified person.



An eye on next year's handicapping.—Mr. W. H. Jones makes notes on "form."



Kept "Jim" busy all day answering questions.

SIDE-WINDS.

SATURDAY, August 18th, also saw the male employees of Messrs. C. G. Spencer and Sons, Ltd., the well-known balloon manufacturers and aeronautical engineers of Highbury, Clapton and Hackney, enjoying their annual outing, brakes conveying them to the old Rye House. On arrival they immediately proceeded to do justice to the very good dinner provided, Mr. Ernest Allen, managing-director of the company, presiding, supported by Mr. E. G. Cole, constructional manager, Mr. Lewis Bryant, secretary, and other members of the staff. Mr. Arthur Spencer, chairman of the company, was unfortunately unable to be present, but he wired his good wishes. Mr. Ernest Allen, in congratulating the rigging staff on the good work they had done and were doing, said that, although they were not in the trenches, they were doing most valuable work at this time. He was glad to say that

it turned out to be a glorious day. A sports programme, arranged for the afternoon, was carried out very successfully, the main feature being the Tug-of-War for the men and the girls. The directors presented a silver cup to the winners, who will hold it for twelve months, and each man of the successful team received a pipe. Unfortunately, owing to the stress of work, only part of the factory staff were able to take advantage of the outing, but those who did go thoroughly enjoyed themselves, and the whole day was voted a huge success.

The annual sports and fête of the Sopwith Co. are arranged for September 15th, and as it is in aid of the Flying Services Fund, it is hoped there will be a specially large entry. The events include 100 yards handicap, a 1-mile relay race,



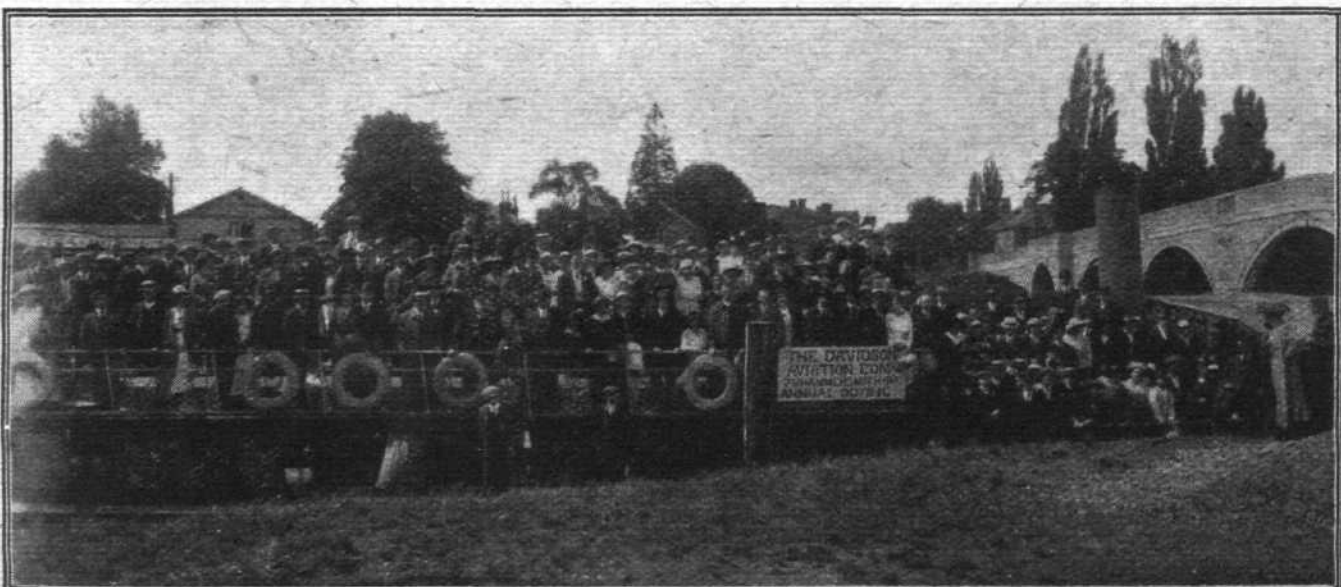
At the Sunbeam Sports.—Mr. Clement B. Kay, the works manager of the Sunbeam Motor Co., Ltd., distributing the prizes.

there was no man in the firm's employ who ought to be in the Army, so they had nothing to fear from the Recruiting Officer. He felt sure that the high standard of workmanship would be maintained, and even improved upon, and that any demands made upon the men by the authorities would receive the greatest attention from every member of the staff. After three lusty cheers had been given for "The Old Firm," an adjournment was made for the sports. In these Manor Works cleared the field. They won the Tug-of-War, and their representatives took the first prizes in the other three events—the 75 Yards "sprint" for veterans, which was won by Preskett; the 75 Yards race for men 31 to 55, won by Linfoot; and the 200 Yards race for men under 30, which fell to Sheppard.

For their first venture in the way of an annual outing the employees of the Davidson Aviation Co. selected a river trip to Chertsey on August 18th. The party left Richmond at 9.30 a.m., and, except for a few showers in the early morning,

440 yards handicap, 1 mile handicap, tug-of-war, as well as novelty races and competitions. Entries close on September 4th, and should be sent to Mr. V. W. Derrington, The Sopwith Aviation Co., Kingston-on-Thames. The fête will be held on the Old Kingstonians Football Ground, and, apart from the sports, the programme includes concerts and dancing, and the tickets are only 6d. and 1s., including tax.

"BORRODISING" is the term applied by the Deptford Steel and Ironworks, Ltd., to their system of the electro-deposition of zinc as a positive preventative against corrosion on steel fittings for aeroplanes and seaplanes. It is a method of cold electro-galvanising, and the work prior to the galvanising is not subjected to the usual pickling bath, consequently there is no reduction in the strength of the metal after treatment. Articles are prepared in a manner that enables the zinc to unite with the underlying metal in such a way that only by extreme wear can the surface of the steel be exposed. The process is, we understand, approved by the Air Depart-



The Davidson Aviation Company's staff and employees enjoy a day on the river. The party at Chertsey.

ment, Admiralty, and War Office, and the company have installed a large plant at their works, The Stowage, Deptford, to deal primarily with all steel fittings employed in the building of aircraft. "Borrowdising" should prove one of the most valuable adjuncts to the aeroplane industry.

THE testing of metals should form a most important part of works routine, for the cost of the process will be more than made good by the saving which will follow the elimination of

work on unsuitable material. Nowhere is this more important than in aeroplane works, and those who are not acquainted with the subject should write to the Coats Machine Tool Co., Ltd., for a copy of a booklet entitled "The Shore Scleroscope for measuring the hardness of metals." The Shore Scleroscope is an instrument for dealing accurately with material of all sizes, either in the raw or finished state, and it is in use at Woolwich Arsenal and the leading factories throughout the country.

LINING WHITE METAL BEARINGS.

It is not altogether surprising that the advantages possessed by white metal—or Babbitt metal—as a lining for bearings has led, in a great many cases, to the supersession of phosphor-bronze and other metals. There are, however, two important considerations if really satisfactory results are to be obtained. One is that the white metal must be uniform in composition, and the other is that the metal must be run at the right temperature.

With these ends in view the Monometer Manufacturing Co., Ltd., of Aston, Birmingham, has produced a special furnace for the handling of these alloys. To ensure the thorough mixing of the alloy a propeller is arranged in the melting pot, the blades being rotated by means of the handle on the outside of the furnace, as shown in the photograph. This operation is rendered all the easier by the fact that the weight of the mixing apparatus is borne on ball-bearings.

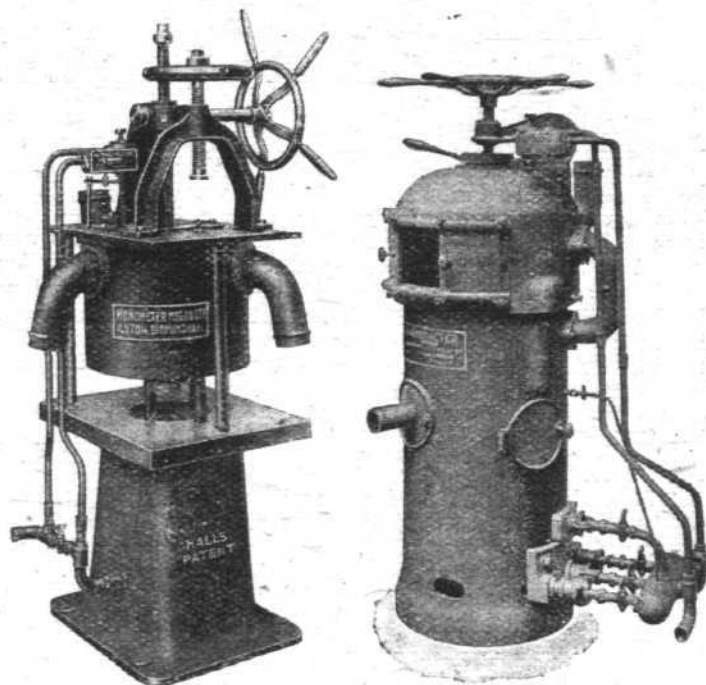
Uniformity of temperature is attained by the Monometer heat controller, a device working on the thermostatic principle which controls the fuel supply and can be adjusted to any desired temperature to suit different alloys. It is claimed that its use absolutely prevents burning or over-heating.

Either gas or oil can be used for heating, and the products of combustion are conveyed through the side flues shown in the chamber above the melting pot, thus effecting considerable economy. The molten metal is drawn from the bottom of the melting pot, thereby tapping the purest metal, and the flow is controlled by a screw valve.

For heating the bearing shells prior to tinning the company supply an oven, fitted with the Monometer heat control, which keeps the temperature of the oven at that required for tinning, the shells being withdrawn and simply rubbed with a stick of tin, an operation which does not call for skilled labour once the regulator has been set to the required temperature.

For small bearings die casting has many advantages, and the makers have produced a machine for the purpose which, as can be seen from our photograph, is of substantial construction, and is equipped, of course, with the Monometer automatic heat control.

We understand that these machines, which are fully covered by the patents of Mr. I. H. Hall, the managing-director of the



On the left, the monometer die casting machine for small bearings, and, on the right, the monometer melting machine.

company, are in use in the leading aeroplane motor factories in Great Britain and France, and that their success is emphasised by the repeat orders which have been received.

Southend and Air Reprisals.

THE Southend Town Council has passed a resolution calling on the Government to state plainly whether or not it intends to take the necessary action to inflict reprisals on German civilians for air raids. If the answer is in the affirmative the Government is asked to give an assurance that the engineering of the scheme of reprisals will leave little doubt that German civilians shall suffer to as great an extent as civilians in England have suffered.

Grants for Air Raid Sufferers.

THE Government has notified the Southend authorities that the Treasury is preparing to authorise grants for the assistance of sufferers from the recent air raid in respect to temporary maintenance allowance for clothing, furniture, or household effects essential to the daily lives of the homes, and funeral expenses. The Government also makes *ex gratia* awards from public funds in cases in which personal injury has resulted in death or permanent disablement, and in which the injured person or his dependents are otherwise unprovided for.

"The World's Air Routes."

So many enquiries have been made for copies of the lecture on "The World's Air Routes and their Regulation," the lecture given by Col. Lord Montagu before the Aeronautical Society, that it has now been published in book form. Most of the interesting diagrams shown at the lecture have been incorporated in the book, together with one or two new ones. In view of the importance of linking up the various parts of the British Empire, it is hoped that the book will find its way to all places along the various routes, and help to stimulate interest not only in aviation itself, but in its practical application to transportation. The book is published at 6d. by the Car Publishing Co., Regent House, Kingsway, W.C.

German Airmen Escape.

AMONG the German prisoners who effected their escape during the past week-end were four connected with the air services. Lieuts. Josef Flink and Orbum A. von Scholtz, who got away from Holyport, near Maidenhead, it is stated, intended to steal an aeroplane and fly back to Germany, but they were recaptured at Beckenham on Tuesday. The other two are members of a Zeppelin crew, and they escaped from the Stobs internment camp. They are Warrant Officer W. H. Jensen and Petty Officer Max Ammerlich.

Scouting in the North Sea.

A MESSAGE from Amsterdam on August 23rd announced that four destroyers, six auxiliary cruisers, two Zeppelins and five aeroplanes had been observed off the Northern Dutch islands.

U.S. Laboratory for Aircraft Engines.

FROM Washington it is announced that the American National Advisory Committee for Aeronautics is organising a laboratory at the Bureau of Standards for the testing of aircraft engines under conditions of altitude and temperature similar to those encountered in flights at an altitude of 20,000 ft. or more.

Another 200 Million for U.S. Aviation.

ACCORDING to the New York *Sun's* correspondent, the £140,000,000 which the U.S. Government has voted for aviation is only for preliminaries, and a new vote for £200,000,000 will be asked for in November. Mr. Barney Baruch, who has made a great name as an organiser, and is now the head of the greatest buying agency of war supplies in the world, is to have charge of the purchase of aeroplanes, says the *Daily Telegraph* New York correspondent.

U.S. Standard Aeroplane Engine.

A SPECIAL Government engine for aeroplanes is now being built at the principal motor works in the United States, says an Exchange message from Washington. It adds:—

"Contracts in large numbers have been let, and the engine is said to be the lightest and the swiftest yet made. If the war continues, 50,000 of these engines will be constructed of a standardised type. The engine is declared to surpass anything so far invented."

Italians have the Superiority.

THE co-operation of the Air Services contributed largely to the success of the latest Italian offensive. A Reuter message says that the enemy troops were surprised by the daring of the Italian pilots, who swooped down to a height of 600 ft. and used their machine guns against the infantry with deadly effect.

Another Reuter message from Udine states, from papers taken from captured Austrian aviators, it appears that Austria admits that Italy has three aeroplanes to every one of hers.

Austrian Exaggerations.

AN Austrian *communiqué* of the 25th announces that between the 18th-23rd 12 Italian planes were brought down. This figure is absolutely fantastic, says a Reuter message from the Italian front. The Italian aerial losses in this period of time amount to two machines, which have fallen in the enemy lines, and two others which were obliged to land outside their proper field, but within the Italian lines. This positive fact, which has been proved, shows what value may be attributed to the Italian losses which the Austrians attribute to them in their *communiqué*.

Another Zeppelin Destroyed.

THE Secretary of the Admiralty issued the following on August 21st:—

"A portion of our light forces while operating off the coast of Jutland on the morning of August 21st engaged and destroyed an enemy Zeppelin. There were no survivors."

An official telegram from Berlin on August 24th says:—

"On August 23rd (? 21st) one of our airships, while attacking British naval forces, was shot down west of the Jutland coast north of the Horns Reef."

Austria Loses an Airship.

THE correspondent of the *Tribuna*, writing of the attack by the British monitors on Mount Hermada, says: "The Austrian Navy did not come out from its moorings at Pola and only during the night did enemy airmen appear at sea, where they expected to find the monitors and where they dropped bombs. The monitors, however, were elsewhere and the result of the enemy raid was the loss of one of their airships, the 'K. 20,' which was hit by shrapnel, causing its bombs to explode, and it fell into the sea."

A German Aeroplane in Holland.

ON the morning of August 23rd a German aeroplane landed near Elburg, in the province of Gelderland. The pilot, who said he had lost his way while on a trip from Paderborn to Dusseldorf, has been interned.

Another Apology by Germany.

IN expressing regret for the violation of Dutch territory by an aeroplane squadron on August 8th, Germany excuses the action of the airmen by the prevalence of thick clouds and a strong south-westerly wind. Not satisfied with the explanation, the Netherlands Government has instructed its Minister to renew the protest. At the same time, the British, French and Belgian Governments have been asked if their aeroplanes violated Dutch territory and dropped bombs during an air fight over Schouwen.

More Bombs on Holland.

THREE bombs exploded close to the Belgian frontier, but in the commune of Cadzand, on Dutch territory, at 11.30 on Saturday night, having been dropped from an aeroplane of unknown nationality. No one was hurt and very little material damage was done. Bombs were also thrown on the Belgian side of the frontier, the objective probably being the Leopold Canal.

The Raid on Essen.

LIGHT is thrown upon the effectiveness of the raid carried out on Essen on July 6th by Sergt. Gallois by a letter recently taken from a German prisoner. This is dated "Essen, July 7th," and after describing the panic which ensued on the firing of the anti-aircraft guns, the letter continues: "Bombs were also thrown on the Thyssen plant at Mülheim. The new Krupp-Strass plant, the new munition factory, is destroyed from top to bottom (total *kaput*). I cannot give you yet the complete details. I will write you to-morrow. Placards have just been posted this instant

announcing that the raids will be repeated this evening. Nobody at Essen will sleep to-night. May the good God protect us well."

Raid Panic at Frankfurt.

THE panic which ensued at Frankfurt on the occasion of the last French raid has drawn a strong protest from the General Commanding the Army Corps stationed there. After reminding the public of the instructions issued as to what is to be done in the case of raids, he says: "The disgraceful panic which occurred during the last raid must not be repeated." It seems that in the wild rush for shelter which then occurred many women and children were injured.



PUBLICATIONS RECEIVED.

The Airman. By C. M. Tatham. London: Humphrey Milford. Price 8d. net.

Pictorial Souvenir of the Strafed Zeppelin "L. 48." Leiston: J. S. Waddell, Hayling Studio. Price 1s. net.

Registration and Publication of Directors' Names. By Herbert W. Jordan. London: Jordan and Sons, Ltd., 116, Chancery Lane, W.C.2. Price 6d. net.

Joint Technical Catalogues: Aeronautics. Glasgow Corporation Public Libraries. Glasgow: Mitchell Library, North Street.

The Wonder Book of the Navy. Edited by Harry Golding. London: Ward, Lock and Co., Ltd. Price, 3s. 6d. net.



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